Utah Home Performance with ENERGY STAR®

2010-2012 Final Report

PECI

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Program Overview

Utah Home Performance with ENERGY STAR® ("the Program") stands as an example of how a federally-funded energy efficiency program can succeed and thrive when the right strategy is put into place. Using funding from the American Recovery and Reinvestment Act (ARRA), the Program set out to assist Utah homeowners in making energy-efficient home improvements, while also generating new work opportunities for energy analysts and contractors, laying a foundation for the home performance industry in Utah. Utah Home Performance has not only met those goals, but exceeded them. In just over a year, 2,188 Home Performance Assessments were completed, resulting in 1,277 households making energy-efficient upgrades through the program. This conversion rate of 58% is well above the national average, as is the average energy savings for those homes at 25%. Beyond those numbers, all of these Home Performance Assessments and retrofit projects are helping to create jobs during a time when solid work can be very hard to find.

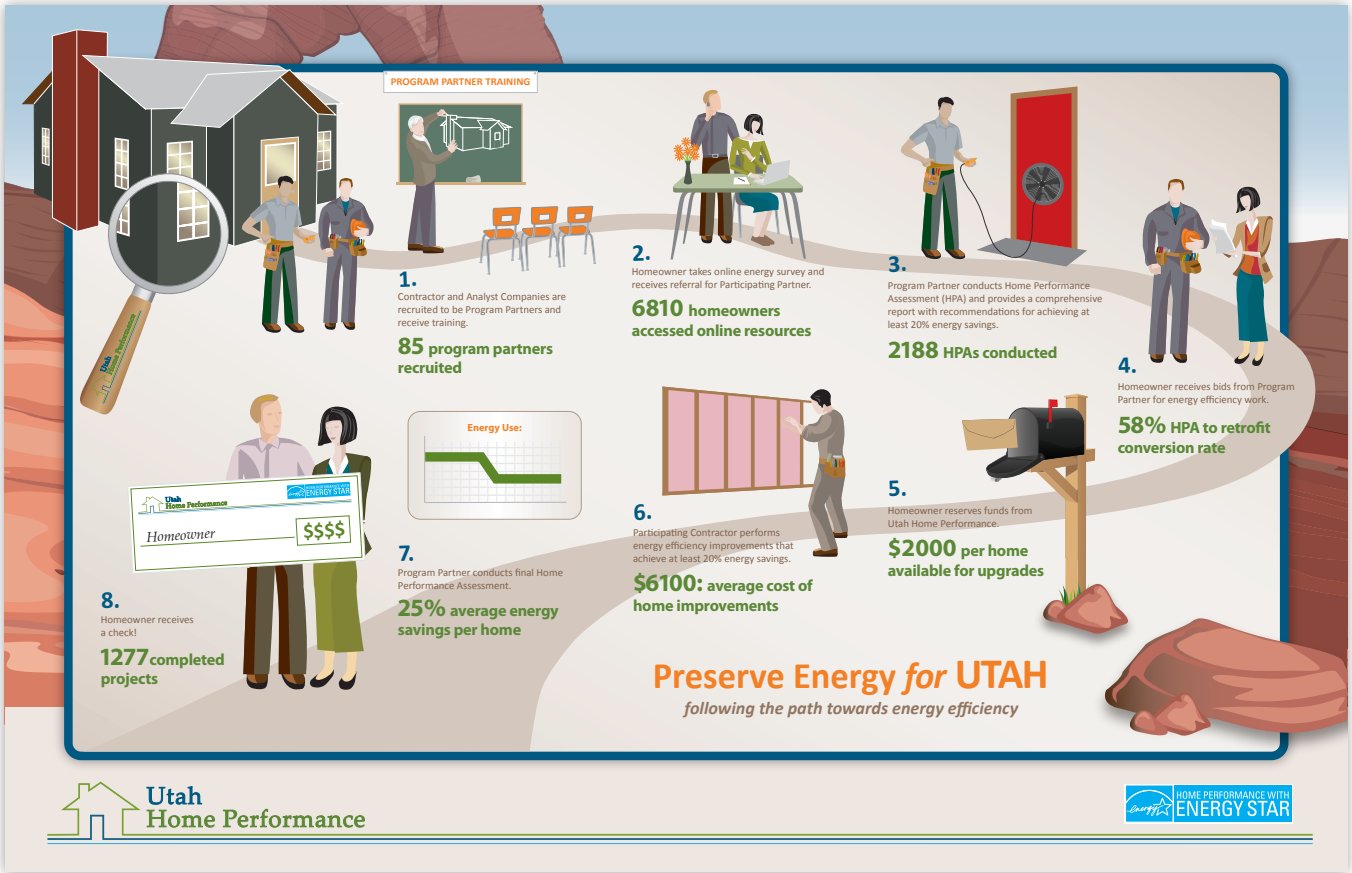
The success of Utah Home Performance can be attributed to a number of factors, including our affiliation with the trusted ENERGY STAR brand. While the benefits of home efficiency are clear, we found that awareness of the whole home, "Home Performance" approach was low. The program has made significant strides toward building a home performance industry in Utah, and has done it by collaborating with local stakeholders and by strongly supporting partner business development.

This report provides an in-depth review of the design, implementation and outcomes of the Utah Home Performance program. UHP has demonstrated that Home Performance approach has a strong appeal to homeowners and the potential to make significant reductions in energy consumption.

Program Process

Utah Home Performance created a path towards energy efficient homes for participants.
Steps included:

- Taking an online energy survey to determine if their home was a good candidate for the Program.
- Hiring an analyst to conduct a Home Performance Assessment (HPA).
- Reviewing the HPA results to determine the best course of action.
- Getting bids from contractors and reserving funds with the Program.
- Hiring a contractor to perform the energy efficiency upgrades.
- Ensuring completion and quality by having the Final Home Performance Assessment completed.
- Applying for the rebate.



By the Numbers

UHP has met and exceeded several of the key performance indicators outlined in our contract with the State of Utah. The metrics below detail the cumulative successes of our program.

UHP Program Metrics

Referrals from Energy Savvy	2,913
Home Performance Assessments completed	2,188
Applications to reserve funds received	1,368
Total number of requested rebates	1,277
Total square footage of retrofitted buildings	2,979,576
Total dollar amount of requested rebates	$2,759,061
Total cost of all projects	$7,528,555
Total amount of dollars leveraged	$4,769,494

Reported Program Metrics

Total number of improvements or listed activities	3,705
Total amount of hours worked by Analyst/Contractor partners	28,969
Total reduction in natural gas consumption (MMcf)	79.37
Total reduction in electricity consumption (kWh)	980.46
Total reduction in propane consumption (gallons)	1,771
Total reduction in gasoline & diesel fuel consumption (gallons)	0
Total Energy Cost Savings	$457,875
Emissions Reductions : amount of GHG reduced electric (CO_2 equivalent)	6,692

The numbers are an important part of the UHP successes but they only tell a fraction of the story. Utah Home Performance has seen a number of major accomplishments as it moved from design to implementation over the past two years.

Program Timeline

Q3 2010

- L3 Green Day event
- Mentorship Program launched
- Website & online survey launched
- Standards & Partnership agreement developed
- Training curriculum launched
- Developed brand & messaging

Q4 2010

- Kitchen Table Sales Tool developed and launched
- Partner Sales Tools distributed
- Partner Advisory Council launched
- Fall Home & Garden Show
- Utah ENERGY STAR Summit

Q1 2011

- Development of utility co-branded materials for outreach
- UHP brand & messaging finalized and iconography launched
- Neighborhood Campaigns launched
- 68 active Program Partners in the field
- 457 HPA's conducted
- Financing options and training rolled out to Program Partners
- Spring Home & Garden Show
- Orbitz event
- Autoliv event

Q2 2011

- Farmer's Market
- Social Media launch
- UHP website content streamlined and made more consumer-friendly
- KSL.com advertising launched
- 85 active Program Partners in the field
- Contractor Portal launched
- 36% increase in HPA's over Q1
- Rebate processing quadruples from Q1
- Live Green Festival
- Heritage Festival

Q3 2011

- Avenues Art Market & Farmer's Market
- KSL.com advertising
- "Limited funds" press release
- Awarded $700,000 additional funding to keep pace with demand
- Streamlined QA & reporting processes
- HPA subsidy to analysts removed to allow for additional homeowner projects

Q4 2011

- Farmer's Market
- "All funds reserved" press release
- Awarded $500,000 additional funding to keep pace with demand
- UHP completes 1000th home
- Marketing & Sales training with Keith Williams

Q1 2012

- UHP receives Partner of the Year Award from ENERGY STAR
- All Program funds allocated to home owners

Q2 2012

- Partner Appreciation Dinner
- Last Program invoice sent in early April

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Measure Analysis

One of the benefits of Utah Home Performance is the program's focus on implementing multiple energy efficiency measures in one package. As the Home Performance Assessment provides a comprehensive overview of each home's unique systems, it helps homeowners make informed decisions about which measures will have the most impact. The average home completed three energy efficiency measures to earn a 25% improvement in energy savings, well above the 20% minimum requirement.

Mandatory items

All UHP eligible homes were required to meet baseline standards for four measures which were identified as having the greatest potential for energy savings. If the baseline criteria were not met by existing conditions, homeowners were required to bring their homes up to the baseline.

Mandatory Measures

Air Sealing	.7 Air Changes per hour
Attic Insulation	R 27 or better
Floor Insulation	Must be added if none in place
Wall Insulation	Must be added if none in place

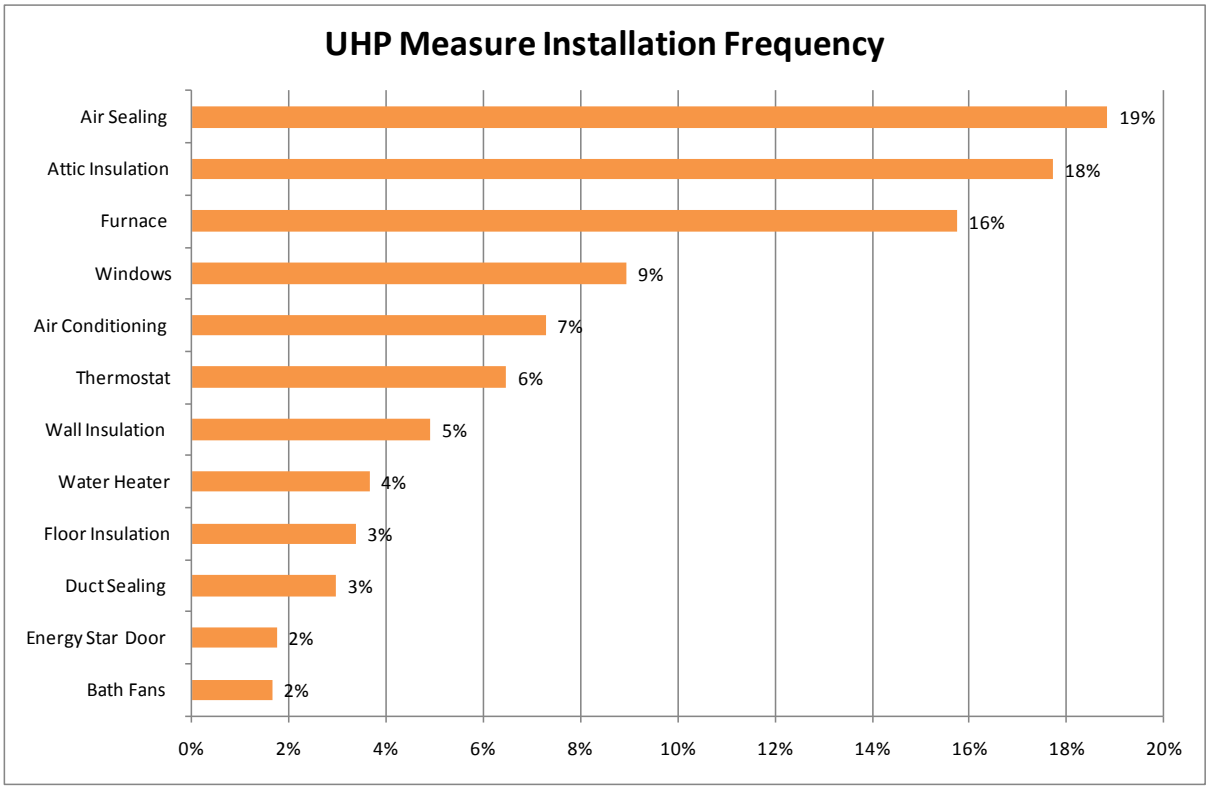
Another strength of the program was the variety of measures eligible for UHP rebate dollars. With a total of twenty-four measures, participants were eligible to make a wide range of qualifying energy improvements. The measures included in the program match with the specifications for utility rebates from Rocky Mountain Power and Questar, two large utility providers in the State.

Eligible Measures

Heat Pump (14 SEER, 11 EER)	Air Sealing (.5ACH)	Floor Insulation
High Efficiency Air Conditioning (15+ SEER and 12.5 EER)	Attic Insulation (R 38)	Compact Fluorescent Lights
High Efficiency Furnace (AFUE 90% or higher)	Bath Fan (ENERGY STAR)	Roof Vent
Lighting Fixtures (ENERGY STAR)	Ceiling Fan (ENERGY STAR)	Low Flow Faucets
Refrigerator (ENERGY STAR)	Clothes Dryer (ENERGY STAR)	Furnace Tune Up
Wall Insulation (R13)	Clothes Washer (ENERGY STAR)	Door (ENERGY STAR)
Water Heater (E.93+G.62+)	Dishwasher (ENERGY STAR)	Programmable Thermostat
Windows (U.30)	Duct Sealing & Insulation	Evaporative Cooler

Measure Count & Frequency

A total of 3,705 energy efficiency measures were installed through the Utah Home Performance program with the top two most frequently installed being the mandatory Air Sealing and Attic Insulation. The next most frequently installed measures were furnaces and windows, both high cost measures. The program also saw a strong seasonal component to measure installation with a high demand for new furnace installation during Utah's winter months.



As a free-market program, UHP encouraged homeowners to request price quotes from several of our 85 Program Partners. A few measures were eligible for self-install with two important caveats. First, the self-installed measures had to meet program quality standards at the time of the test out, and if issues were identified (leaks around windows, gaps in insulation) the homeowner had to address them in order to receive a rebate. Secondly, self-installed measures were eligible for a rebate only on the cost of the materials. In the chart below, measures eligible for self-install are indicated with an asterisk.

UHP Average Measure Cost to Homeowner

Air Sealing*	$967.35
Attic Insulation*	$969.91
Bath Fan (ES)*	$565.37
Ceiling Fan*	$374.47
CFL*	$279.43
Clothes Dryer (ES)	$646.35
Clothes Washer (ES)	$695.26
Dishwasher (ES)	$655.65
Door (ES) +	$1,228.62
Duct Sealing & Insulation	$772.20
Evaporative Cooler	$4,014.06
Floor Insulation	$711.04
Furnace Tune Up	$521.20
Heat Pump	$6,520.81
High Eff. Air Conditioner	$4,232.87
High Eff. Furnace	$4,499.04
Lighting Fixtures	$862.37
Low Flow Faucet	$208.93
Refrigerator	$1,413.53
Roof Vent	$689.60
Thermostat	$136.32
Wall Insulation	$1,232.64
Water Heater (includes domestic solar & tankless systems)	$3,105.61
Windows*	$5,131.46

Measure Combinations

While the program saw numerous variations in measure packages, the most frequently installed measure combinations were:

- Air Conditioning, Furnace, Programmable Thermostat (40 homes)
- Air Sealing, Attic Insulation, Furnace (32 homes)
- Air Sealing, Attic Insulation, Windows (30 homes)

Average Job Cost & Utility Rebate

With access to a wide variety of eligible measures and a great deal of new knowledge about their homes, UHP participants took full advantage of the rebate dollars available. The average homeowner installed three measures at a cost of $6,089. In calculating the eligible job cost, UHP subtracted the dollar value of any rebates offered by the local utility providers at an average cost of $446.00. This succeeded in raising homeowner awareness of exiting utility rebates, and prevented customers from "double dipping" rebate dollars. As a whole, the program participants spent $7,770,394 in Utah, improving their homes and creating jobs for local contractors during a sluggish economy.

Optimizer Data Analysis

All of our analysts used a software program called Optimizer to document and calculate the results of both the Home Performance Assessment and the Test Out. As a result, UHP had access to a substantial amount of information regarding the characteristics of the homes which participated. Program data-gathering efforts from Optimizer files focused on getting a better understanding of the existing conditions found in UHP homes and tracking the improvement after their energy upgrades.

UHP Mechanical System Analysis

HVAC	Existing Conditions	Post Upgrade Conditions	Average Improvement
Furnace (AFUE)	69.59	94.95	25.36
A/C (SEER)	8.18	15.57	7.39

Insulation Analysis

Location	Existing Insulation Levels	Post Upgrade Insulation Levels	Average Amount Added
Attic Insulation (R-value)	21.48	53.94	32.46
Basement Insulation (R-Value)	0.24	13.67	13.43
Crawlspace Insulation (R-Value)	1.1	25.92	24.82
Floor Insulation (R-Value)	1.12	27.65	26.53
Wall Insulation (R-Value)	0.49	16.11	15.62

UHP Installed Insulation Counts

Measures	Total Square Footage Installed
Attic Insulation	749,919
Floor Insulation	89,398
Wall Insulation	109,662
Windows	47,111

Savings Analysis

One goal of the Program was to support existing utility energy efficiency programs in Utah. The Program included measures from both gas and electric fuel sources, aligning with utility minimum specifications for all measures. Of the total utility rebates calculated, 86% were for gas-fueled measures and 14% were for electric-fueled. The larger percentage of gas measures lines up with the fact that most homes in Utah use gas for both home and water heating. In order to receive rebate dollars, homes had to demonstrate a minimum of 20% energy savings. The average UHP home has a 25% savings, further demonstrating that there are considerable opportunities for energy savings in existing homes across the state.

The Program offered the Energy Performance Score (EPS), a tool which provides a standardized estimate of a home's energy usage and associated carbon emissions, to all participating homeowners. UHP introduced this tool to help homeowners understand their baseline home performance and the potential performance after making recommended upgrades. The average baseline EPS for homes was 196. Overall the EPS ranged from a high of 640 and a low of 51 (the lower the score the better). After upgrade work was completed, the average home improved its EPS by 59 points.

UHP saw a diverse assortment of homes across the state with variations in age, construction type and location. Ages ranging from the late 1880's to the program cut off of 1999. While each home is unique, the Program has compiled a variety of metrics in order to find the average UHP home.

UHP Average Home

Square Footage	Total Job Cost	Utility Rebates	Rebate Amount	KwH Savings	Therm Savings	Percent Saved	Prior EPS	Post EPS	CO2 Savings
2,230	$5,709	$441	$2,184	796	629	31%	211	142	4

Our analysis has found that each vintage of home presented unique opportunities for energy savings. Not surprisingly, homes constructed earlier in the century had less square footage and a higher than average percentage of savings after upgrades. We also found that the average job cost for these homes was slightly lower and utility rebate dollars slightly higher, so in short, more impact per dollar.

UHP Average Home

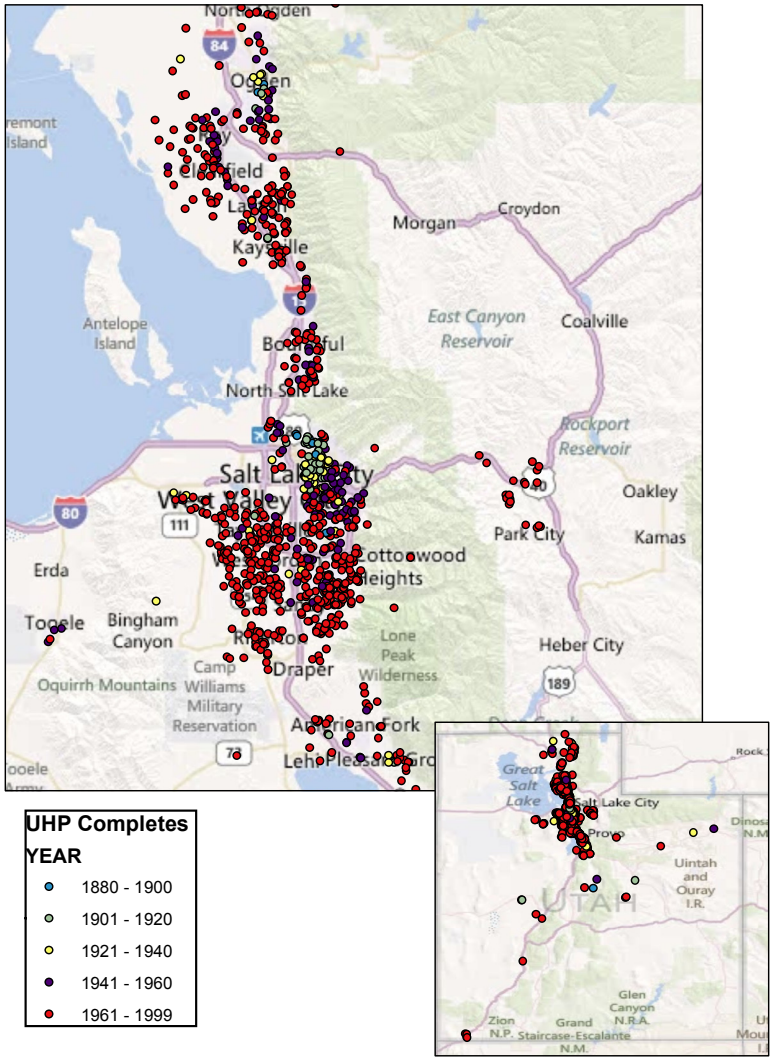
Vintage	Number of Homes	Square Footage	Total Job Cost	Utility Rebates	Rebate Amount	KwH Savings	Therm Savings	Percent Saved	Prior EPS	Post EPS	CO2 Savings
Pre 1900	19	1718	$5,217	$476	$2,163	1047	772	35%	254	160	5.1
1900 to 1920	60	1934	$5,586	$438	$2,201	802	732	32%	236	159	4.5
1921 to 1940	68	2071	$4,917	$412	$2,130	669	632	31%	201	136	4.0
1941 to 1960	193	2066	$5,993	$425	$2,192	696	572	31%	192	130	3.7
1961 to 1980	406	2626	$6,028	$441	$2,209	712	597	29%	198	137	3.8
1981 to 1999	448	2965	$6,512	$451	$2,208	849	470	27%	183	133	3.3

By mapping the location of homes in the program, we found that the greatest density of participating older homes was in the Northeast neighborhoods of Salt Lake City. This dovetails with the program's neighborhood outreach strategy, which targeted libraries, neighborhood associations and other organizations in communities like The Avenues and Sugar House.

Most Improved Home

Of special note is UHP's most improved home, which saw a remarkable 67% energy savings thanks to upgrades made through the program. The home's Energy Performance Score moved from an initial 295 to 98 after Test Out. This home installed 11 measures including windows, air and duct sealing, new ENERGY STAR appliances and wall/floor/attic insulation.

Utah Home Performance by Vintage



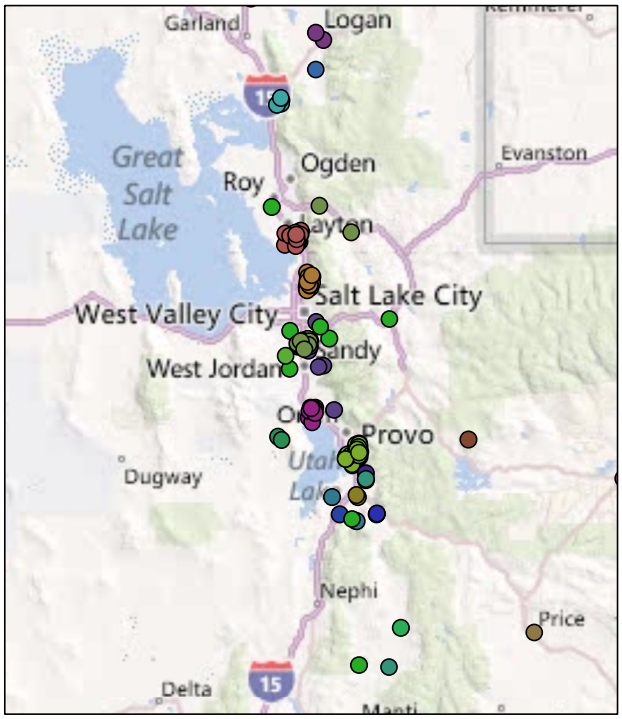
2005 Baseline

As a program with a whole house focus, UHP encountered several homeowners who had begun energy efficiency upgrades prior to finding out about Utah Home Performance. UHP wanted to find a way to support these homeowners who had already taken the initiative, but due to their prior upgrades, may not be able to show 20% energy savings; a requirement of UHP. The solution was to create a 2005 baseline within Optimizer, the energy analysis software, that captured and provided savings credits for measures installed within the prior five years. With this approach UHP was able to create a baseline that accurately showed where these homes began and fully document the savings they achieved. Previously installed measures were not eligible for any rebate dollars and were not applied to the measure installation counts. The 2005 baseline allowed our Program Partners to include the energy savings realized by recent improvements in the overall energy savings calculations. This resulted in a slight adjustment to overall program savings. When including the 2005 baseline measures, the Program achieved an average savings of 29%. Without these measures included, the average savings is slightly reduced to 25%.

Utility Profile

As a program federally funded through ARRA dollars, UHP was available state-wide and supported homeowners within a variety of utility territories. Questar Gas provides gas service to the vast majority of Utah so there was little diversity on the gas utility side. Nine homeowners who participated in the program received no gas service at all, relying on propane. On the electric service side, Rocky Mountain Power dominates the market. However, Utah has multiple electricity providers, many at the municipal level. These utilities are relevant because any measure-specific utility rebate available to the homeowner was subtracted from the eligible job cost to prevent "double dipping" in rebate funds.

Electric Utility Providers, RMP Excluded

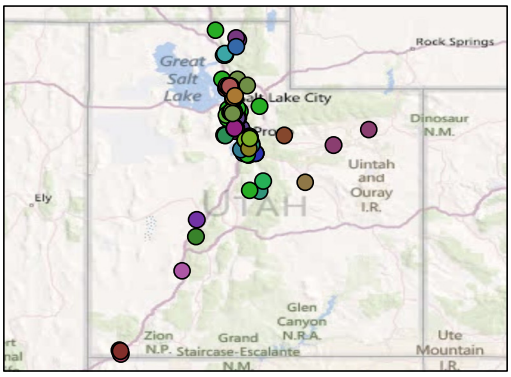


Legend

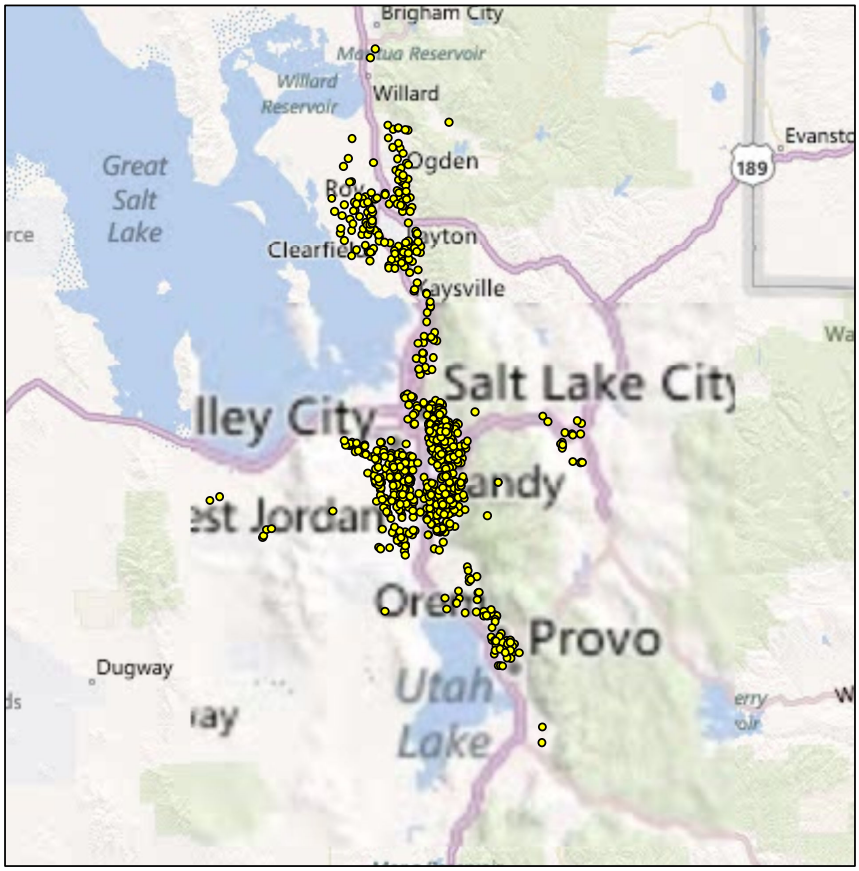
Geocoding_Result

ELECUTILIT

- Beaver City
- Bountiful City
- Brigham City
- City of St. George
- Dixie Escalante
- Eagle Mountain
- Fairview City
- Fillmore City
- Flowell Electric
- Heber Light & Power Co.
- Hyrun City
- Kaysville City Power
- Lehi City
- Logan City Power
- Moon Lake Electric
- Murray City Power
- Pacific Power
- Payson City
- Price City Municipal
- Provo City Power
- Raft River Electric
- SESD
- Spanish Fork Power
- Springville City
- Sprinville
- Strawberry Electric
- Utah Power

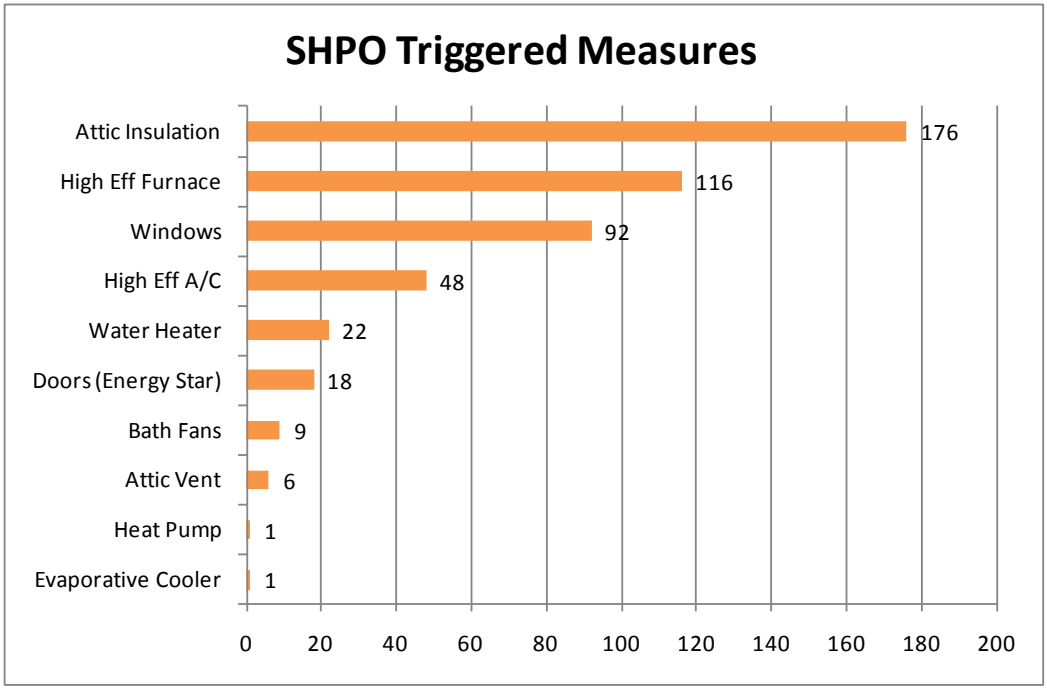


Rocky Mountain Power Customers



State Historic Preservation Office Requirements

As a federally funded program, UHP was required to adhere to federal regulations. The administrative arm of the National Historic Preservation Act State Historic Preservation Office (SHPO), requires homes 50 years or older undergo a review to ensure that their historic character would not be impacted by renovations funded through Program dollars. In order to uphold these regulations, UHP and the State of Utah created a review process to ensure compliance. At the time of fund reservation, homes constructed in 1960 or before underwent internal review to see if efficiency measures impacted the exterior appearance of the home from the public right of way or included change in materials (wood to aluminum windows for example). If either change was anticipated, UHP gathered information about the home, its previous condition and the extent to which the integrity of the home would be impacted. A ruling of "adverse effect", "no adverse effect" or "no exterior change" was then determined by program staff, our State Administrator or the State of Utah SHPO office as necessary. As these regulations were not entirely understood early in the program, a few homes constructed before 1960 had completed the program or were in the process of completion before undergoing the SHPO review.



Program Process and Timeline

The average homeowner was engaged with the Program for four months, from the date of Home Performance Assessment to invoicing. Internal paperwork processing required significant coordination between analysts, contractors and the team conducting QC. The transition to Energy Savvy's online task-based software allowed staff to have a high degree of real-time visibility into individuals moving through, and the program as a whole. The Program was greatly assisted by the active role that Program Partners played in guiding their clients through the process. Some Program Partners completed the paperwork for their clients while others requested that the homeowners take that responsibility. But all of the Partners played a substantial role in communicating the needs and status of their clients throughout the process.

Marketing

Approach

The program's marketing campaign was designed specifically to honor Utah's values. Images and language were carefully chosen to fit the ideals of the target audience and local social norms. The copy, website and all visuals were localized and highlighted positive images of the Utah environment and culture, with special focus on the traditions, colors, nature and landmarks

Building the Brand

Essential to the success of the program was the building of a familiar, recognizable brand to prompt action and motivate behavioral change.

This included:

1. Developing the Utah Home Performance 'Preserve Energy' brand identity, including use of iconography.
2. Creating messaging and identifying ways to differentiate Utah Home Performance assessments from utility-run energy audits.
3. Gathering local knowledge and targeting segments of communities with brand messaging that was delivered through influential, and sometimes unorthodox, local channels.
4. Researching demographics and targeting local social norm creators to feed our messaging and identity, and to increase the speed of uptake.
5. Collaborating with Utah stakeholders to leverage marketing and outreach opportunities while supporting existing energy efficiency programs with our brand.
6. Providing sales and marketing support and branding with ENERGY STAR affiliation to motivate Participating Partners who joined the program.

Targeting the Audience

Guided by program parameters, homeowners with houses built pre-2000 with a moderate to middle income level were targeted. Our in-depth research found that targeting the Lifestyle of Health and Sustainability subset would be the most efficient use of time and budget, and would provide the greatest initial return.

"Lifestyle of Health and Sustainability" (LOHAS) Demographic

This group tends to be early adopters, highly influential, and covers a wide age-range. They are dedicated to personal and planetary health. They are not segmented by age or employment, but are motivated by ideals. They make environmentally friendly purchases and they also take action – purchasing green products, supporting advocacy programs, and are active stewards of the environment.

Positioning the Brand

Determining our brand tone and messaging was also important to attract LOHAS participants to this new program. Appealing to the Utah-centric sense of pride in their landscape and their independent but family-orientated spirits, we approached messaging with an intimate “kitchen table” slant that was familial and multi-generational.

Messaging Overview

Our messaging was based upon how we wanted to position the brand in the mind of the potential LOHAS participant. We made sure to take advantage of existing social norm prompts and local buyer behavior to inspire more energy efficient changes and choices. We did this by using the umbrella messaging of “Preserve Energy for Utah’s Future Generations.” This type of messaging was split it into two UHP life-cycle based approaches:

Awareness messaging

- Our family preserves energy for future generations and for the communities we cherish.
- We are dedicated to preserving energy for Utah’s future generations, for our children’s grandchildren.
- Our family upgrades with energy efficiency improvements because we want what is best for our children and to increase comfort in our homes.

Advertising Example:
In our family we preserve and pass on everything, stories, photos and of course, recipes. I’ve decided to pass on a new tradition of my own. I’m preserving energy for future generations. A home performance assessment helped me to figure out how to do it.

Call to action messaging

- Your great-great grandparents preserved energy – what will you do?
- Be at the forefront of preserving energy for future generations, take action before anyone else.
- Be a pioneer of the new energy preservation industry.
- Preserve energy, your great-great grandchildren will thank you.

Advertising Example
Your great-grandparents used clay and straw to seal their home. What will you do? Contact your local energy expert to find out more.

Marketing Success

The "Preserve Energy" Utah-centric brand that was developed spoke to our audience in a familiar way and combated the uphill struggle a new program often encounters in trying to gain public acceptance. Positioning of the brand as part of the ethos of Utah increased trust and encouraged more rapid uptake.

Cooperative Marketing and Sales Support

The success of any home performance program relies heavily on the participating partners' abilities to reach homeowners and sell their product. UHP supported contractors' sales efforts through a variety of avenues.

- Cooperative marketing – Partners were eligible to be reimbursed for a portion of their marketing costs. The program provided one-on-one marketing guidance to assist partners in developing their marketing materials.
- Kitchen table sales tools – Partners received free printed materials to help them convey the initial results of the Home Performance Assessment.
- Sales training – The program offered marketing and sales trainings to Partners to support their sales efforts.

Homeowner Overview

Homeowner Survey Results

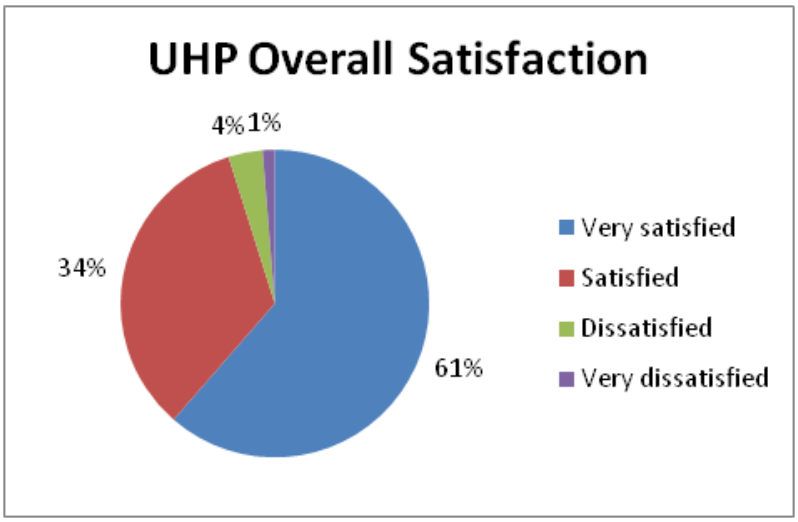
As UHP introduced a new program to the market in Utah, we focused on understanding our potential participants and gathering as much feedback as possible. Over the course of the program, UHP issued multiple online surveys to Program Partners and participating homeowners at two stages: post-HPA and post-project completion. This real-time feedback helped UHP make adjustments to administrative processes and also provided a sense of customer satisfaction with various contractors and analysts. Survey respondents expressed a high level of satisfaction with their overall experience with Utah Home Performance, indicating their interactions with contractors and program staff was generally positive.

- 97% of survey respondents said they would recommend Utah Home Performance to their friends, family or neighbors.

- The surveys reported greater homeowner satisfaction with analysts and contractors later in the program, which suggests Program Partners steadily increased their responsiveness and customer service as they grew more familiar with UHP.

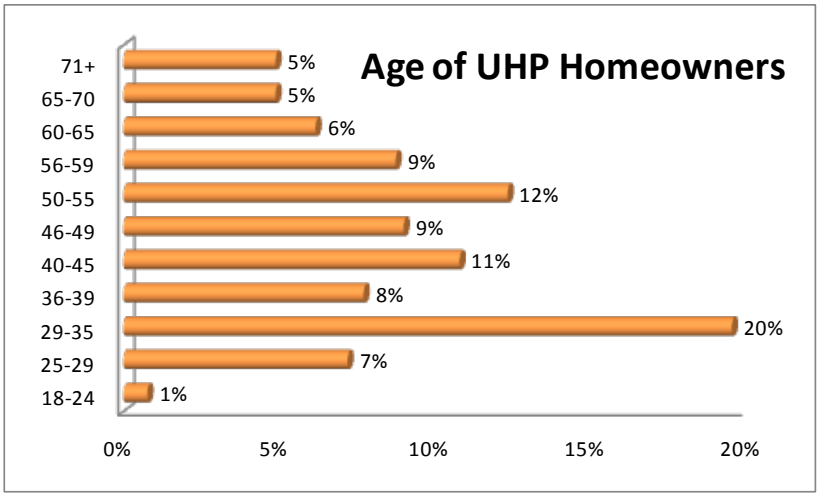
Very Satisfied	Survey Date
46%	May 2011
56%	November 2011
61%	February 2012

- An average of 57% of respondents indicated they found their Home Assessment Report very useful. See Appendix A for full Homeowner Survey results.

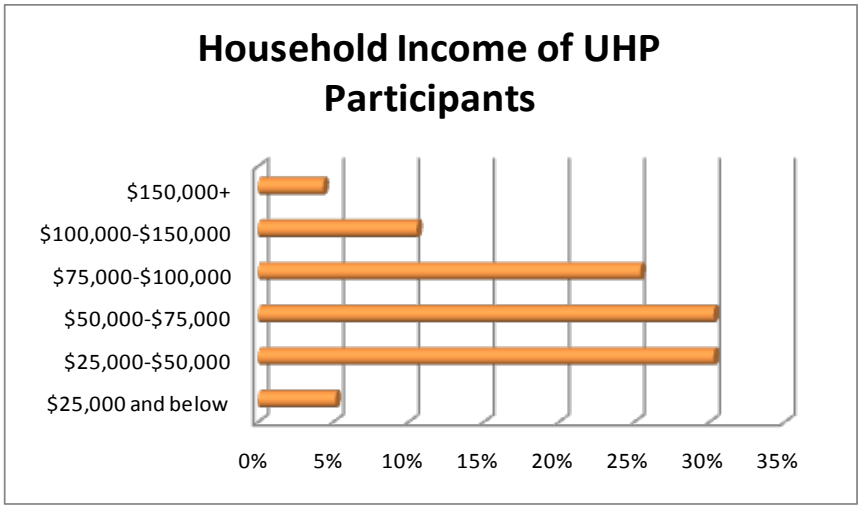


Demographics

From the online surveys, the program collected a small sample of demographic data specifically around the age and household income of our participants. As the graph below details, UHP participants represented a broad age range with 37% being more than 50 years of age. While the small sample size prevents us from drawing definitive conclusions about the participant group as a whole, the broad range indicates that program messaging reached an intergenerational audience as intended.

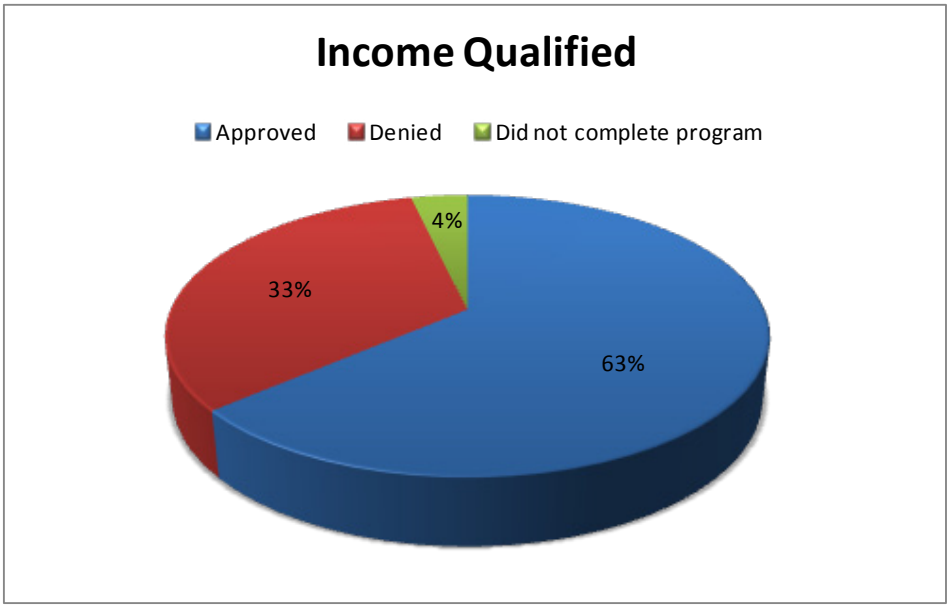


According to the US Census Bureau, the average household income in Utah is $56,330. UHP did not collect household income data for participants as part of the program application, so the information below was self-reported by survey respondents.



Moderate Income Participants

In order to make UHP more accessible to moderate income homeowners, program design included additional rebate dollars for households from 150-200% of the federal poverty guidelines. For qualified families, UHP allowed 80% of the program costs up to the cap of $2,000. To qualify homeowners for the 80% rebate, the program partnered with Energy Finance Solutions, known in the whole-home industry for offering income qualification and financing solutions to Home Performance with ENERGY STAR Programs around the country. UHP saw a total of 55 homeowners apply for the 80% rebate.



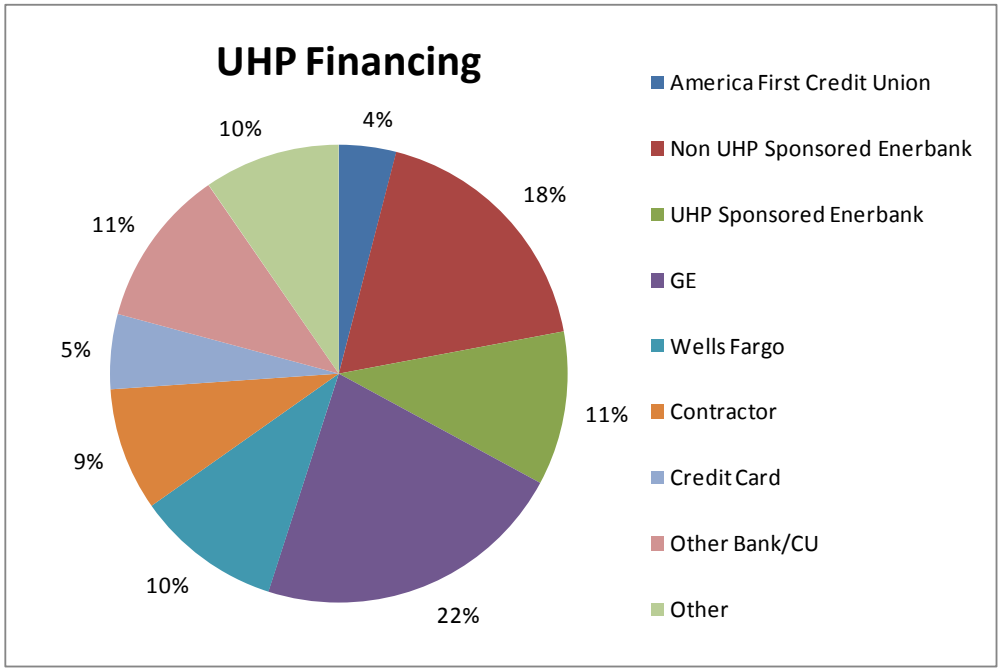
Financing

While there are clear benefits from an energy savings perspective to taking a multi-measure approach, finding the financial resources to pay for the work can be a challenge for homeowners. In order to help homeowners pay for their upgrades, UHP identified and secured two different subsidized financing options.

UHP Financing Options

Company	Loan Terms	UHP Subsidy
Viewtech	Fixed rate unsecured installment loan	Up to $500 (depending on loan amount) buy down of interest
Enerbank	Unsecured Same As Cash loans	Loan origination fees up to $500 (depending on loan amount)

To be eligible for UHP subsidized financing, the homeowner had to work with a Program Partner who had signed on the various loan options. 26% of UHP homeowners took advantage of some form of financing to pay for upgrades.



Contractor Overview

Contractor Approach

Establishing a successful program requires high levels of contractor engagement and buy-in. The Program design offered extensive support of our partners through monetary incentives, a solid mentoring program, ample training and marketing support. The Program connected with key partners early on to inform design and launch. We also established a Partner Council to foster leadership and engagement throughout the life cycle of the program. This resulted in high levels of customer satisfaction, higher than average conversion rates, increasing quality assurance pass rates over time, and trusted partnerships.

Partner Council

The focus on developing trusted partnerships and establishing a consistent feedback loop between partners and the program resulted in transparency, collaboration and ongoing program improvements. The Partner Council met on a quarterly basis and served as a mechanism for providing program updates to partners while gathering feedback to help inform ongoing program and process improvements. In addition, program staff maintained an open-door policy for all contractors to provide their views on the Program.

Trainings & Mentorship

Prior to Program launch, Utah lacked a single Building Performance Institute certified contractor. Through training and mentorship, Utah Home Performance was able to build up the Home Performance market in Utah, driving high-quality work and excellent customer service for all participating homeowners. Our mentorship approach credited the contractors for the knowledge and skills they brought to the table and allowed for a collaborative learning experience in the field, leading to a highly trained contractor workforce.

Analysts were assessed on a 1-3 scale of Fair, Good and Excellent. All participating analyst companies increased their assessment skills by at least one level. 35% of analysts ended the program within the "Excellent" level while the remainder achieved "Good".

Quality Assurance and Escalation Process

Quality assurance is a hallmark of Home Performance, as it allows the Program to accurately document the positive impact of energy efficiency measures. The Program conducted quality assurance on 14% of the work done by participating Partners at Test Out. The analyst was responsible for identifying any failures and arranging with the contractor to correct those. In cases of failures during Test-Out quality assurance, the Program worked with the contractor to fix any issues and determine if a re-inspection was in order. The Program responded to all customer complaints with a mandatory quality assurance visit. In some cases, an escalation process was initiated, giving partners "strikes" for failures outside the threshold of common mistakes. The program's policy included a "two strike maximum" at which time partners would be asked to leave the Program. In the three cases where partners were asked to leave, it was due to significant misrepresentations of the Program and multiple customer complaints.

All UHP Program Partners were thoroughly vetted and required to provide comprehensive documentation, including licensing, insurance and bonding information before being accepted. Using the escalation process detailed above, each company was contacted on the first offense and given the opportunity to respond to the complaints against them. In one case, the company was removed after claiming exaggerated savings, failing to complete documentation and poor work quality on multiple occasions. In another instance, the company misrepresented the program to homeowners with regard to both energy and rebate savings as well as promoting their own energy savings package which was not compatible with UHP approved measures.

Quality Assurance Activity

Type	Total	Percent	Pass Rate
Paper HPA QA	2188	100%	
Paper Test-out QA	1277	100%	
Field HPA QA	117	6%	94%
Field Test-out QA	191	15%	96%

Common issues in Quality Assurance

Test-In	First-time mentoring sessions, special focus on Combustion Appliance Zone (CAZ) testing
Attic	Attic hatch not sealed properly, incomplete dam, hatch insulation not secured, baffles missing. This was the most common failure.
Crawl space	Missing vapor barrier, no sealing or insulation of rim joists
Combustion Appliance Zone (CAZ)	Analyst test out showed worst case CAZ depressurization failure. Contractor required to install make-up air.
Duct sealing	One particular contractor used a non-approved product for duct-sealing

Trainings, Marketing & Equipment Support

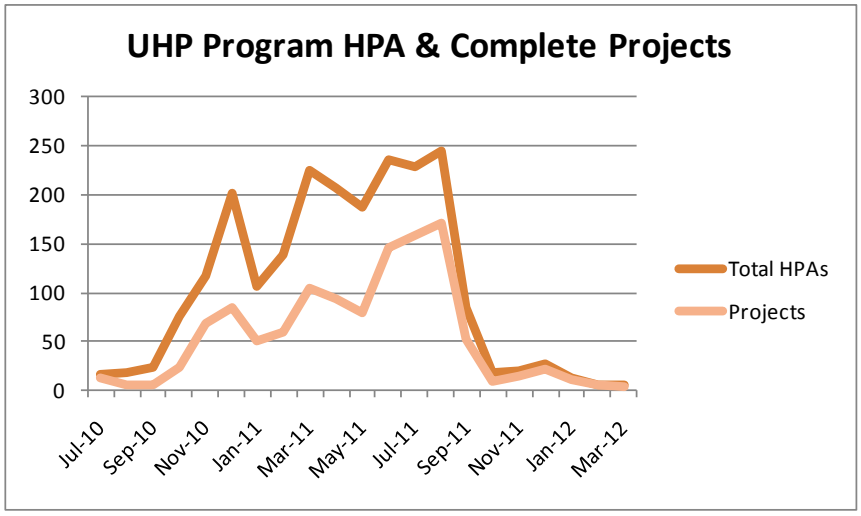
As an ARRA funded program, UHP focused on job creation, energy savings and developing an infrastructure for the whole home market. In order to support these goals, UHP provided training, cooperative marketing and equipment purchase support. UHP marketing staff provided considerable one-on-one support to Program Partners and worked actively with companies to leverage UHP materials.

UHP Partner Support

Category	Uses	Dollars Spent
Training	For BPI Certification or other approved training	$1,500.00
Cooperative Marketing	50% of up to $1,000 per year for advertisements (flyers, radio, tv)	$4,255.95
Equipment Purchase	Discounted equipment (blower door, CO monitors, etc.)	$4,500.00

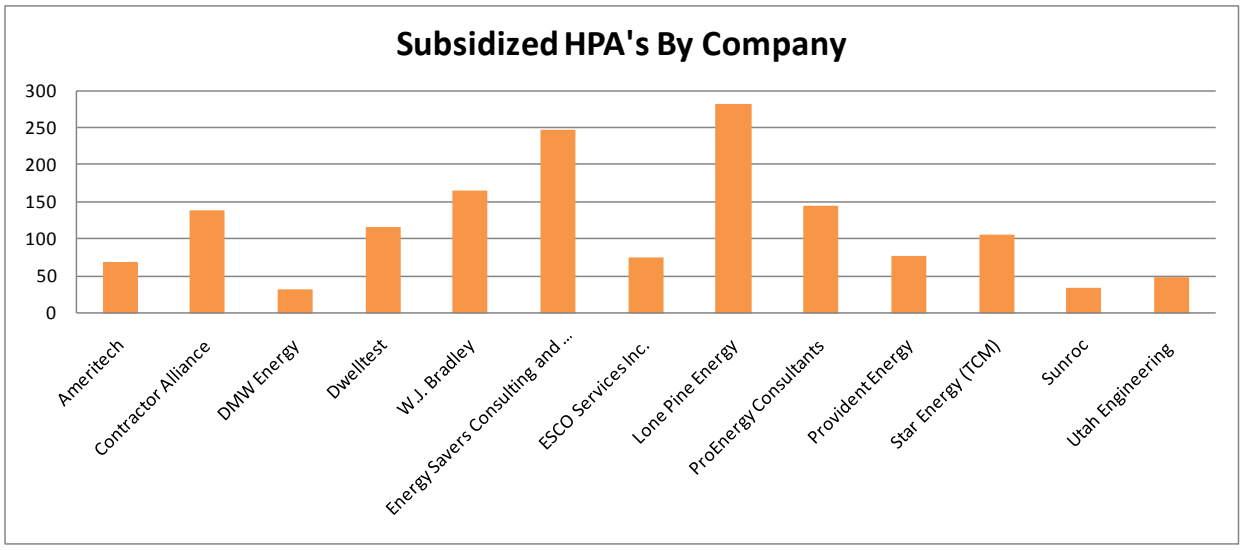
Home Performance Assessment & Conversion Rates by Partner

Over the course of the Utah Home Performance Program, 2188 Home Performance Assessments (HPA) were conducted. The program saw a 58% conversion rate from HPA to project completion, a significant increase over the 27% conversion rate originally expected. The Program attributes this notable success to a variety of factors including low barriers to program entry, strong Program Partner recruitment of homeowners and active communication between staff, Program Partners and homeowners.



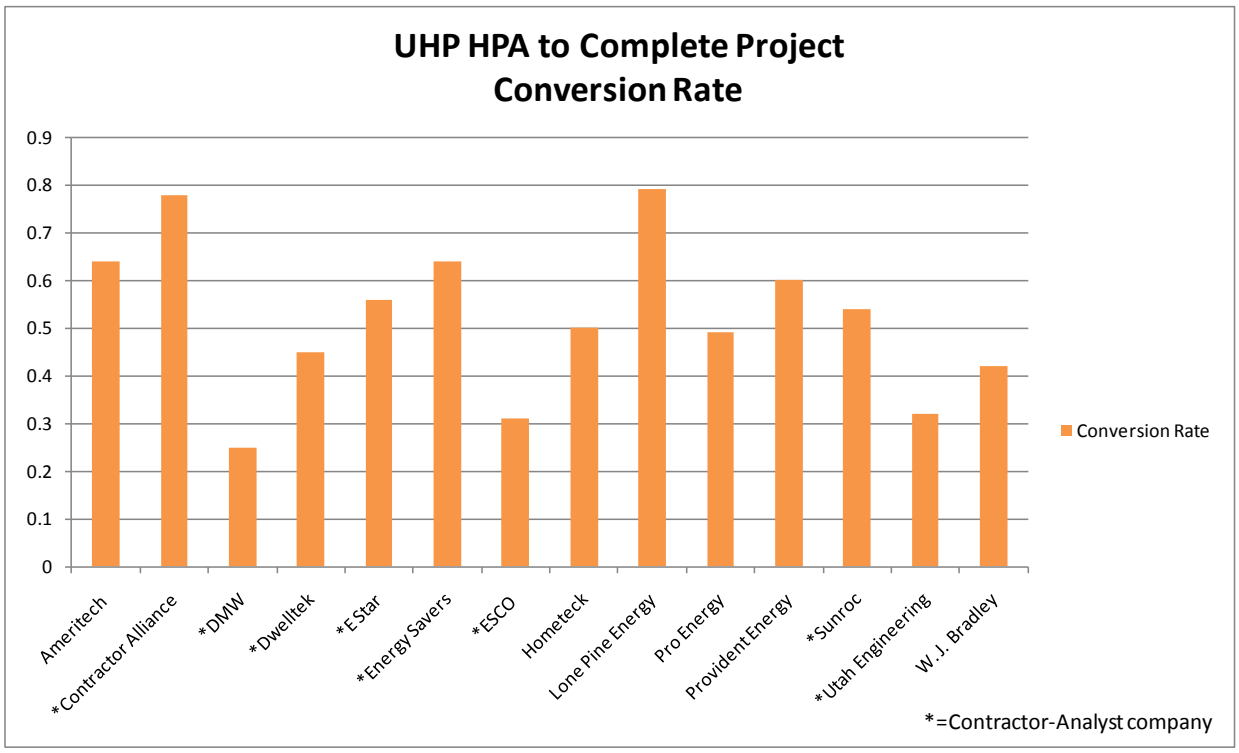
In the early stages of the program, UHP wanted to ensure a low entry cost to encourage participation. Homeowners paid $100 out of pocket for their Home Performance Assessment while the program provided a $200 subsidy to the analyst upon the successful QC of the technical files.

The program paid out $363,600 in subsidies to contractors for completed HPA's. The subsidy was removed in August 2011 in order to allow a shift of funds to homeowner rebates. With this change, analysts were able to charge market rate for their services. Despite this, the most frequent cost of an HPA remained $100 with a high of $500. Some Program Partners provided the HPA at no cost to the homeowner as a business development effort. Of the 2188 HPA's conducted, 1815 were subsidized by the program and 373 were not.



Partner Profiles

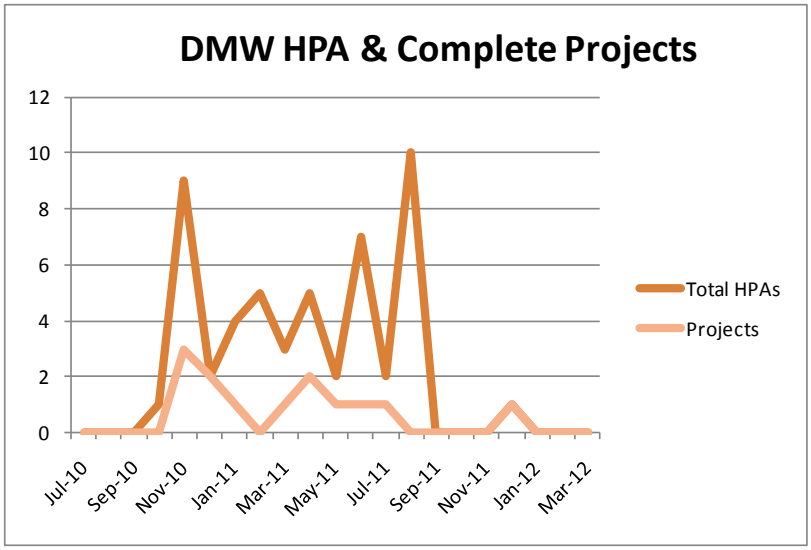
Program Partners in UHP were analyst only companies if they performed just the HPA and Test Out. Contractor only companies performed energy efficiency upgrade work exclusively. Companies which offered both analyst and contractor services were able to do so only if they formally separated the businesses into two entities. This allowed homeowners in the Program to have a choice in the Partners they worked with while supporting different business models under the home performance umbrella.



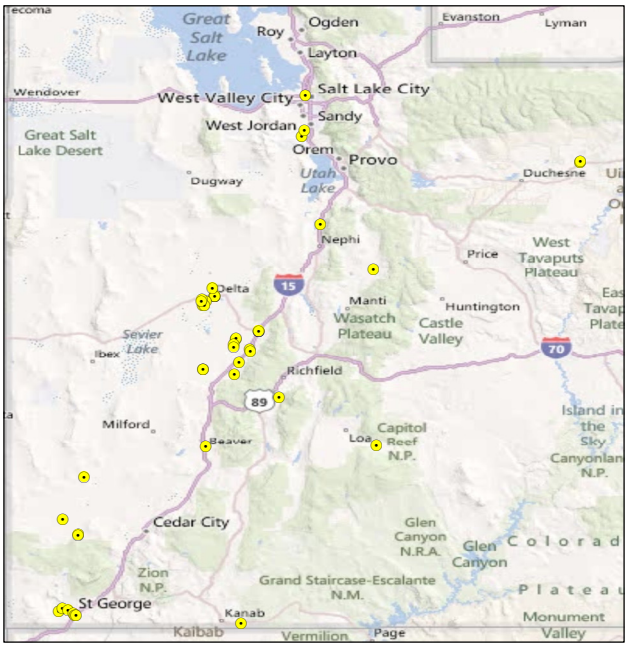
As conversion rates, client base and specialization varied by Program Partner, UHP developed a few profiles to provide more insight into the partner companies. As our program included multiple analyst-only companies, partnerships often arose between analysts and contractor companies to help execute energy measures recommended in the Home Performance Assessment. Because these developing business networks contributed to the success of the program and our partners, we have included the information in the profiles to help illustrate their connections.

DMW Energy

DMW Energy, a contractor and analyst company, focused on working with homeowners outside of the Wasatch front. The overall conversion rate for DMW was at 25%, below the program average, but is likely to attributable to the geographic range of his client base.

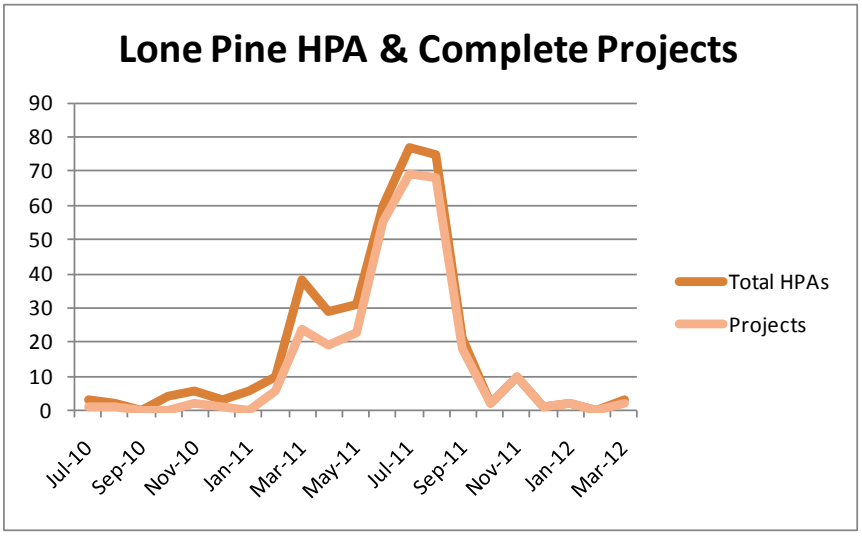


Home Performance Assessments by DMW Energy

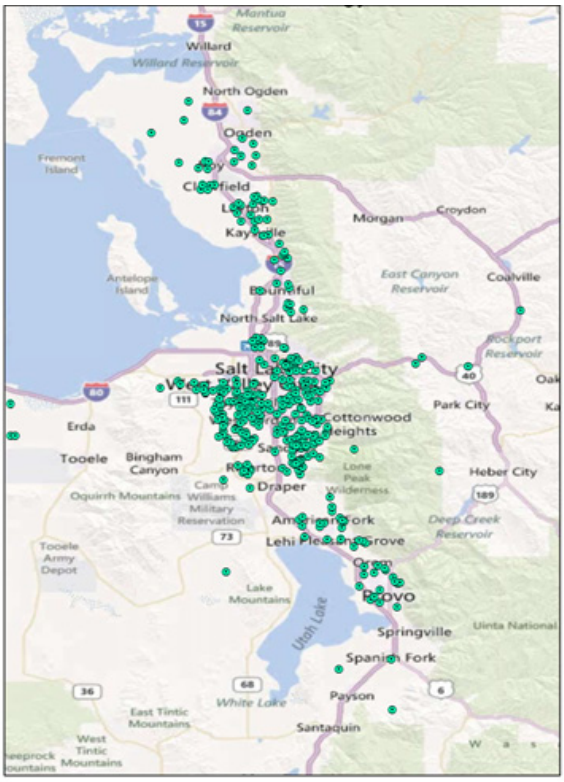


Lone Pine Energy

Lone Pine Energy, an analyst-only firm, was one of the most active Program Partners, conducting a remarkable 383 HPA's and a 79% conversion rate. The firm developed partnerships with a wide range of contractor companies including Advanced Construction Heating and Air, Eager Heating & Air, and Whipple.

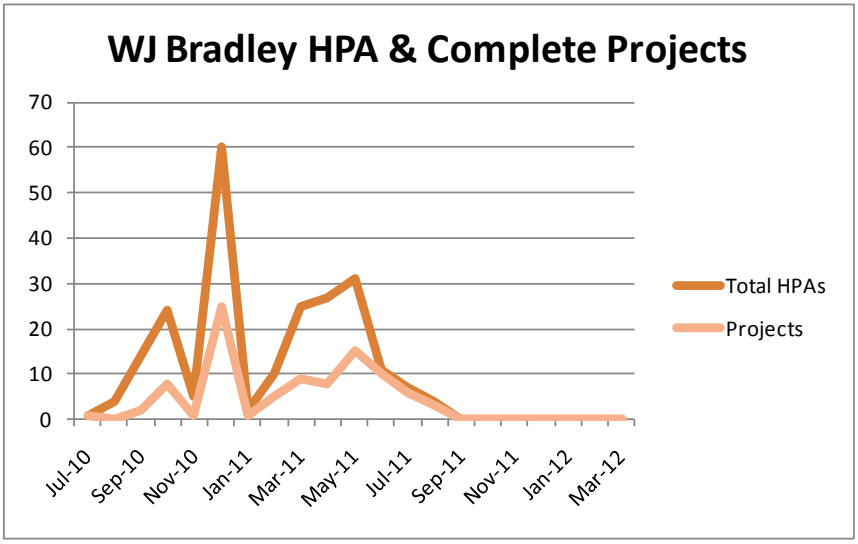


Home Performance Assessments by Lone Pine Energy

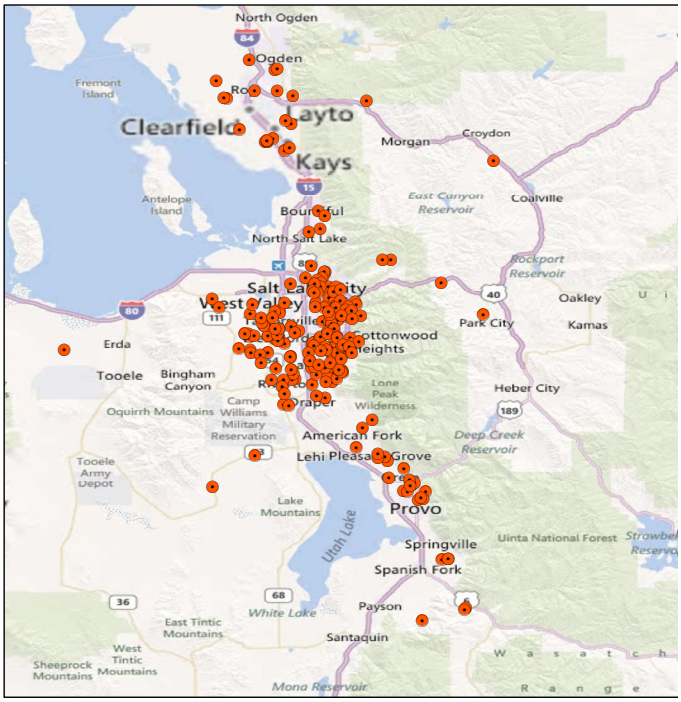


WJ Bradley

WJ Bradley began with UHP as Energy Conservation Initiative and conducted a total of 225 HPA's through the program with a 42% conversion rate. As an analyst-only firm, they built relationships with Mr. Window, Rocky Mountain Windows & Doors, and Greencrest Development.

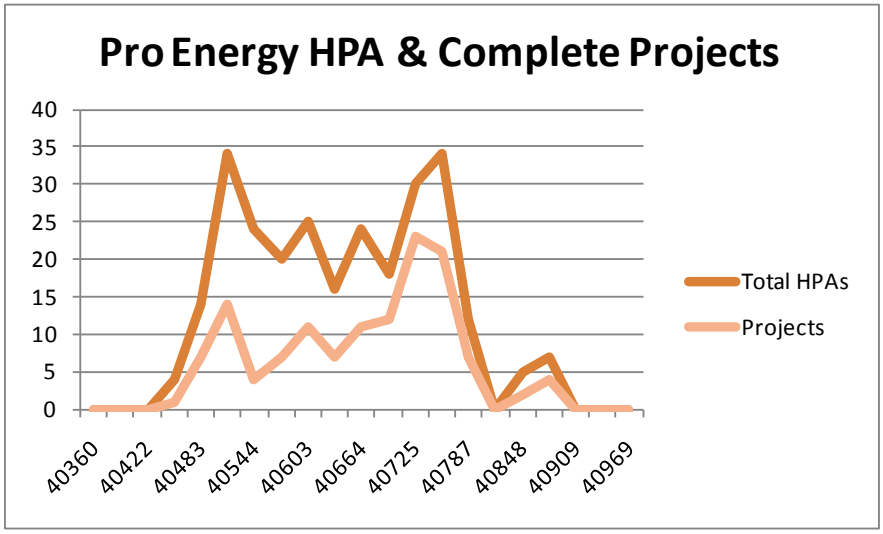


Home Performance Assessments by WJ Bradley

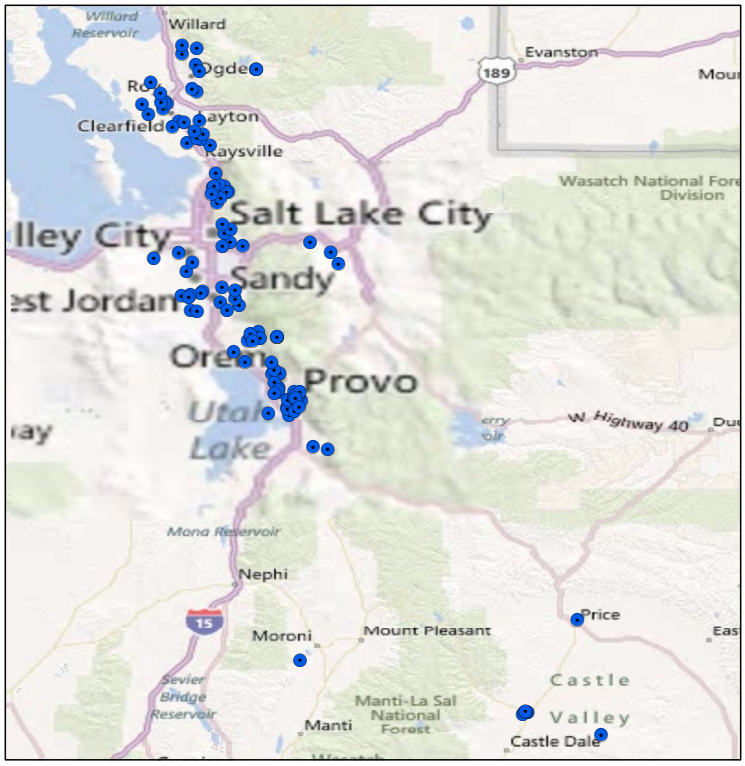


Pro Energy

Pro Energy, another of UHP's analyst-only firms, conducted 267 HPA's with Utah Home Performance and established a 49% conversion rate. They built successful relationships with Accent Windows, Alpine Exteriors, Parleys, and Smedley and Associates.



Home Performance Assessments by Pro Energy



Conclusion

Utah Home Performance has laid the foundation for a robust home performance industry throughout the state. The two-year pilot resulted in a highly trained, specialized workforce, and increased awareness among homeowners of the value of energy efficiency improvements.

The success of the program has shown that Utahns are ready to embrace a more comprehensive approach to optimizing their homes for greater energy efficiency, comfort, health and safety.

Even with its many great achievements, Utah Home Performance has only scratched the surface of the vast opportunities for energy efficiency improvements in the state. The work towards a comprehensive approach will continue with the formation of a Home Performance Contractor's Council that will further engage Utah's energy efficiency industry.

Utah Home Performance with ENERGY STAR®

Appendix A – Marketing Materials

Utah Home Performance

HOME PERFORMANCE WITH ENERGY STAR

PECI

Brand Development

Utah Home Performance

HOME PERFORMANCE WITH ENERGY STAR

Utah Home Performance

HOME PERFORMANCE WITH ENERGY STAR

PROGRAM PARTNER

Utah Home Performance Logo

Utah Home Performance Program logo and Partner logo helped us solidify our cooperative marketing materials and this helped us not only to recruit partners, but also retain them later on. The Program Partner logo, which highlighted our affiliation with the trusted ENERGY STAR® brand, served as a stamp of approval that supported our partners' efforts to promote their services to potential clients.

Brand Development

‘Preserve Energy’ Ball jar as the Program icon

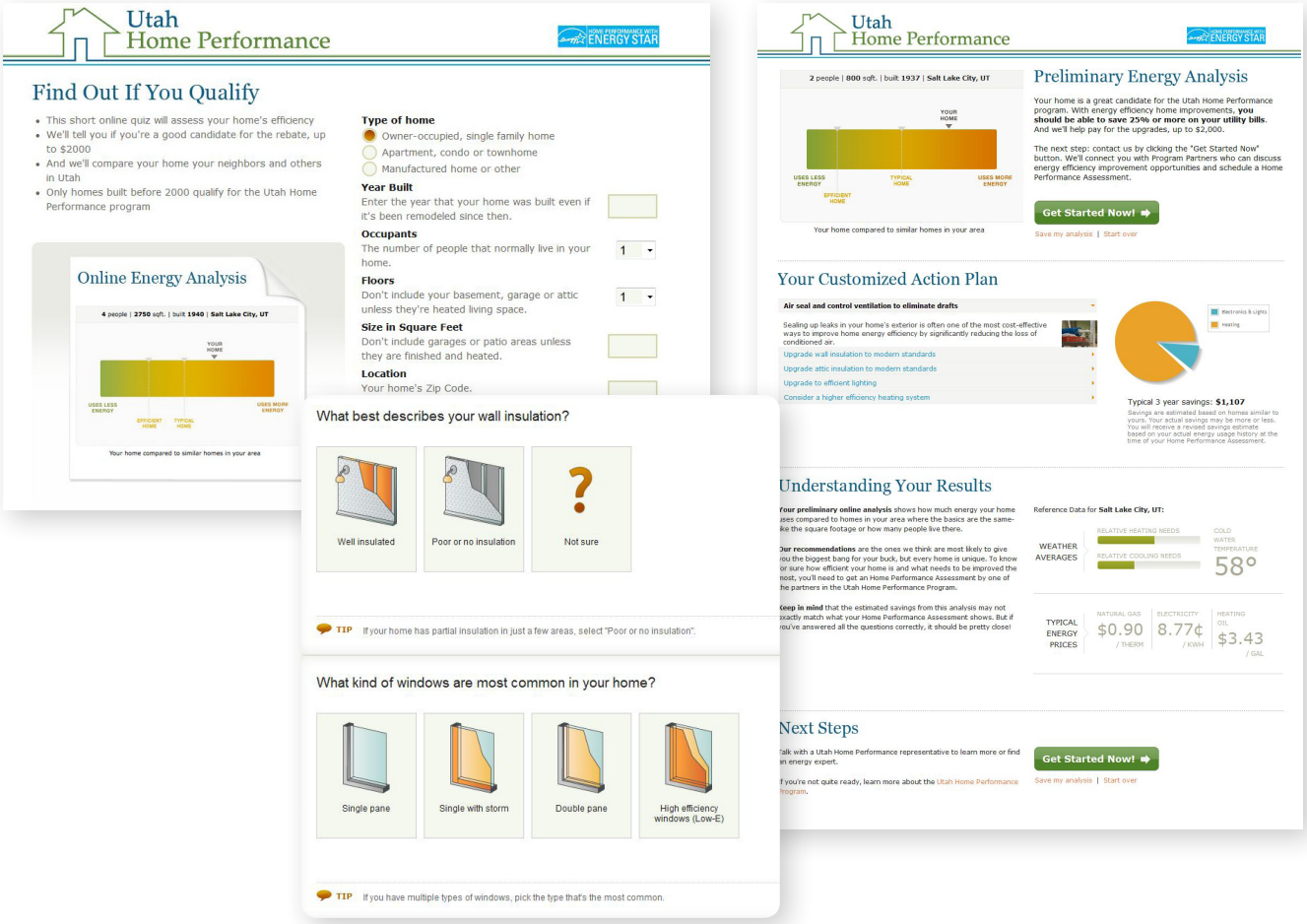
We used this icon to visually represent all aspects of the Utah Home Performance brand. The message and imagery evoke experiences and values shared throughout Utah, making it a very relatable and memorable visual.

Website

Website

The Utah Home Performance website was the first visible branded platform we created. It provided an overview of the program, access to an online energy survey and was a valuable resource for information and communication throughout the lifecycle of the program to both homeowners and stakeholders.

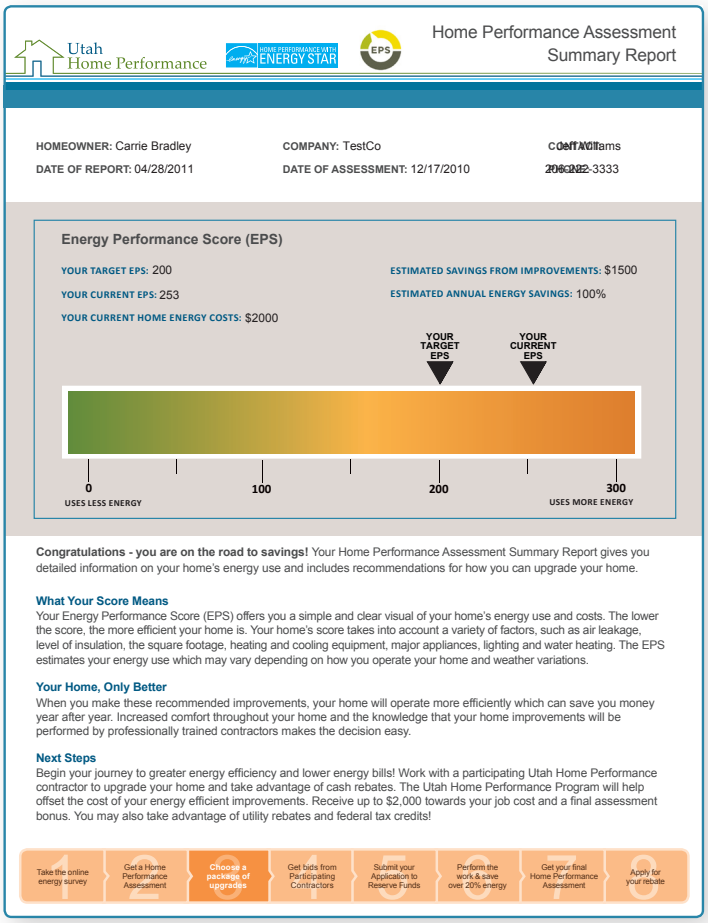
Website



Online Energy Survey

The online survey provided a simple interface for gathering homeowner information and acted as a preliminary screening tool for the program. Homeowners received initial survey results that set expectations for program participation.

Measurement



Utah Home Performance

Home Performance Assessment Summary Report

HOMEOWNER: Carrie Bradley
COMPANY: TestCo
CONTACT: Jeff Williams
DATE OF REPORT: 04/28/2011
DATE OF ASSESSMENT: 12/17/2010
801-202-3333

Energy Performance Score (EPS)

YOUR TARGET EPS: 200
YOUR CURRENT EPS: 253
YOUR CURRENT HOME ENERGY COSTS: $2000
ESTIMATED SAVINGS FROM IMPROVEMENTS: $1500
ESTIMATED ANNUAL ENERGY SAVINGS: 100%

YOUR TARGET EPS
YOUR CURRENT EPS
0 USES LESS ENERGY
100
200
300 USES MORE ENERGY

Congratulations - you are on the road to savings! Your Home Performance Assessment Summary Report gives you detailed information on your home's energy use and includes recommendations for how you can upgrade your home.

What Your Score Means
Your Energy Performance Score (EPS) offers you a simple and clear visual of your home's energy use and costs. The lower the score, the more efficient your home is. Your home's score takes into account a variety of factors, such as air leakage, level of insulation, the square footage, heating and cooling equipment, major appliances, lighting and water heating. The EPS estimates your energy use which may vary depending on how you operate your home and weather variations.

Your Home, Only Better
When you make these recommended improvements, your home will operate more efficiently which can save you money year after year. Increased comfort throughout your home and the knowledge that your home improvements will be performed by professionally trained contractors makes the decision easy.

Next Steps
Begin your journey to greater energy efficiency and lower energy bills! Work with a participating Utah Home Performance contractor to upgrade your home and take advantage of cash rebates. The Utah Home Performance Program will help offset the cost of your energy efficient improvements. Receive up to $2,000 towards your job cost and a final assessment bonus. You may also take advantage of utility rebates and federal tax credits!

1 Take the online energy survey
2 Get a Home Performance Assessment
3 Choose a package of upgrades
4 Get bids from Participating Contractors
5 Submit your Application to Reserve Funds
6 Perform the work & save over 20% energy
7 Get your final Home Performance Assessment
8 Apply for your rebate

Energy Performance Score

The Energy Performance Score acted as a sales and marketing tool and offered homeowners a “miles per gallon” energy rating for their home. It also set an energy savings target for homeowners to focus their sights on as they measured improvement.

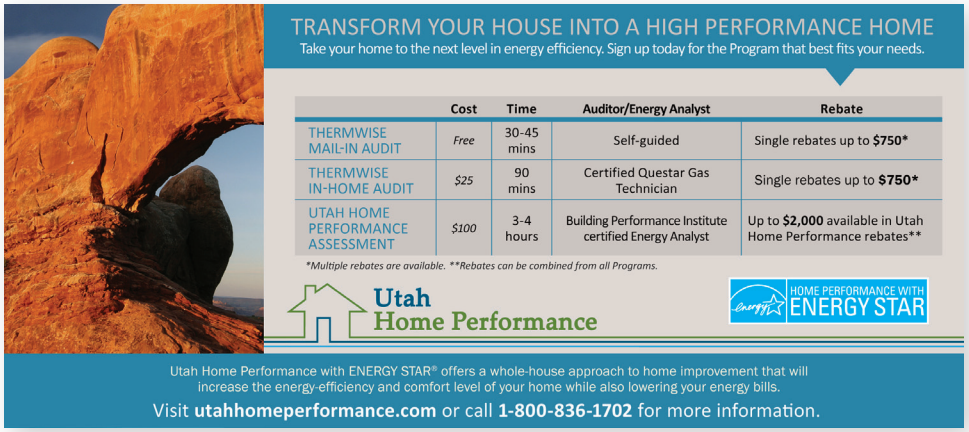
Measurement

Cutaway House

Our Program Partners needed materials to supplement their “kitchen table” approach to home performance evaluation. A Home Energy History form was developed featuring a cutaway house visual. This form allowed Program Partners to quickly point out the results of their assessment and leave behind a high-level overview for the homeowner to absorb prior to receiving a fully detailed report later.

Local Partnerships

Front:



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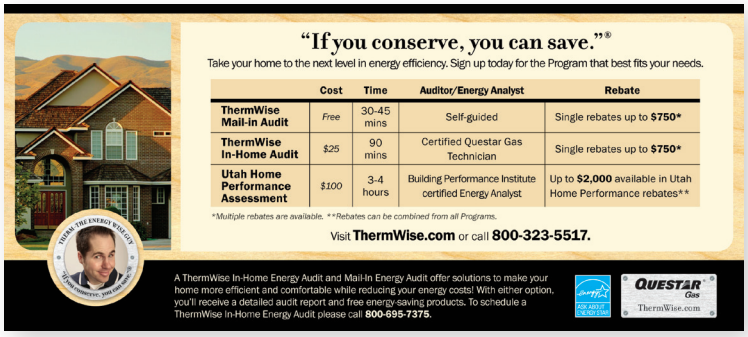


Co-Branded Rebate Check Insert

Working in partnership with local utilities and existing energy efficiency programs, we were able to expand our reach while establishing trust in our brand.

Simplifying Steps

Fact Sheet

Our fact sheet, which we used in various print and online marketing materials, summarized the steps involved in participating in the Utah Home Performance Program. By breaking up this information into an easily digestible format, homeowners gained a clear understanding of how the program worked.

Program Postcards

Program Postcards

Utah Home Performance postcards were a range of small materials handed out at events to inform the public on all or parts of the program.

Community Poster

Community Poster

The community poster was developed to publicize Program informational events in neighborhoods. Displayed in places such as local coffee cafes, grocery stores and libraries.

Advertising: Awareness

Consistent Kitchen Table approach and messaging

Using story-based ad campaigns, we were able to raise awareness of our program as a way to save energy not only for the participating homeowner, but also for their families and future generations. The family-oriented imagery hits close to home and encouraged participation.

Advertising: Action

Action Advertising

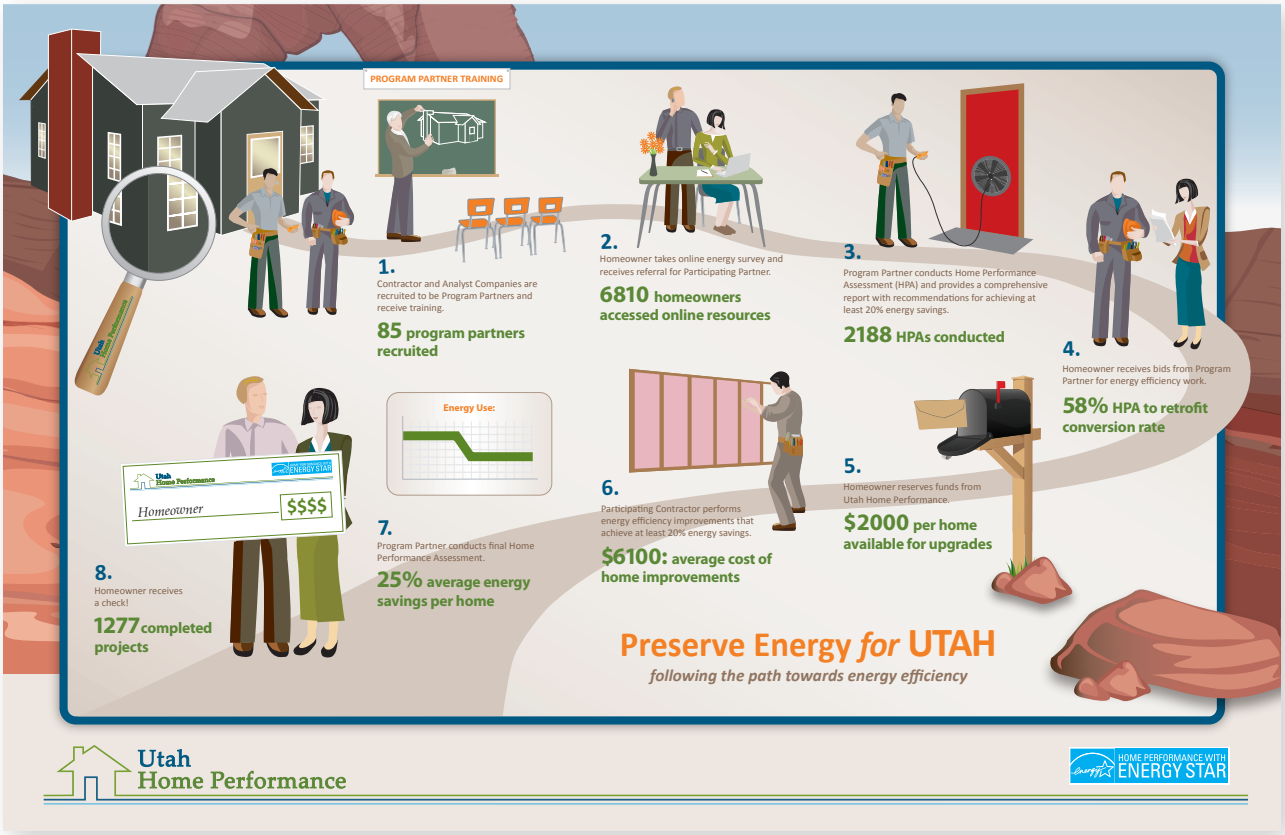
We created 'action' advertising after awareness. By using QR codes, we were able to create interactive advertising that quickly directed homeowners to an online destination where they could fully engage with the program. This strategy also helped us reduce the amount of physical marketing materials we needed to produce and distribute.

Advertising: Partner support

Post Rebate Advertising

To drive sustainability of home performance as a practice within the Utah marketplace, we promoted the expertise of our Program Partners through advertising and other marketing materials. Our aim was to encourage homeowners to continue preserving energy by hiring our highly skilled partners for their energy efficiency and home improvement needs, even after Utah Home Performance rebates are no longer available.

Process Overview



Infographic

The Utah Home Performance infographic provided a clean visual snapshot of how the program worked from start to finish, while also highlighting its many successes. By showcasing results and clarifying how various stakeholders benefit from the program, we now have a comprehensive program summary that can be used online or in print.

Case Study

Case Study

Showcasing a participant both on the homeowner side and the partner side in a case study allows a reader to experience the reality of being part of the Program.

Utah Home Performance with ENERGY STAR®

Appendix B – Survey Results

Utah Home Performance

HOME PERFORMANCE WITH ENERGY STAR

PECI

Utah Home Performance Program Survey Results

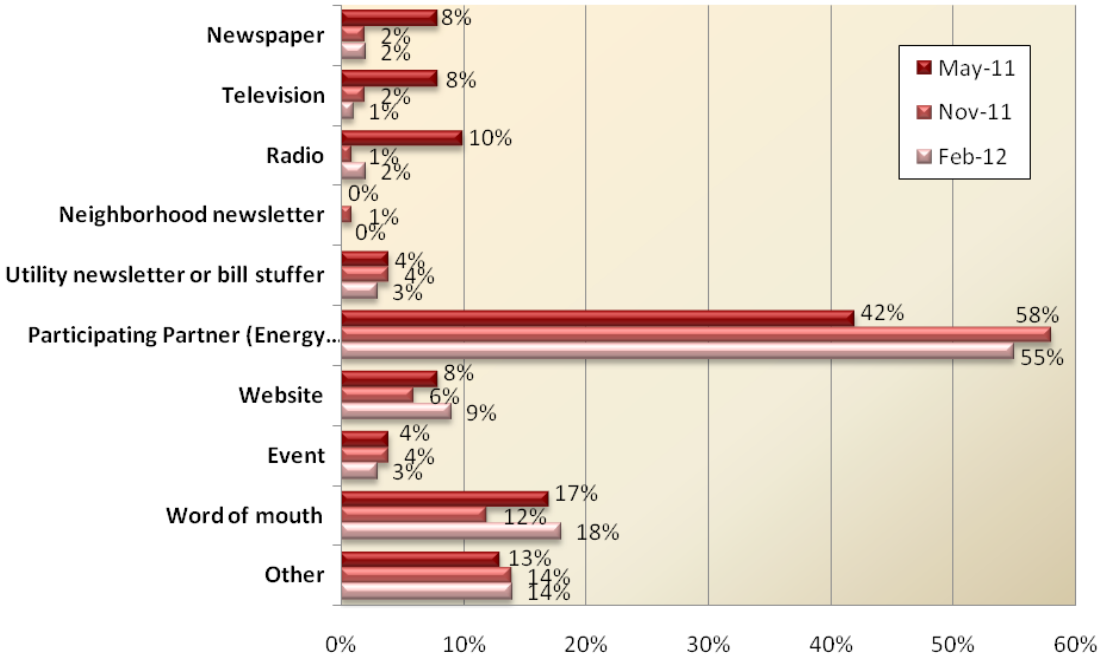
This report presents data collected from three surveys taken in May and November of 2011, and February of 2012. Results for the surveys are displayed together and reflect the change in responses as the program progressed. A few of the questions were open ended and allowed homeowners to elaborate on their experiences with the program and the companies they worked with, and we've included some of their quotes.

	Recipients	Completed	Completion Rate
May 2011	161	78	48%
November 2011	369	136	37%
February 2012	432	178	41%
Total	**962**	**392**	**41%**

"We were able to find ways to improve the energy efficiency of our home, which I really appreciate. It makes financial sense and helps preserve our future."

"Cost savings and tax savings are always helpful and lower energy costs will benefit us for years to come."

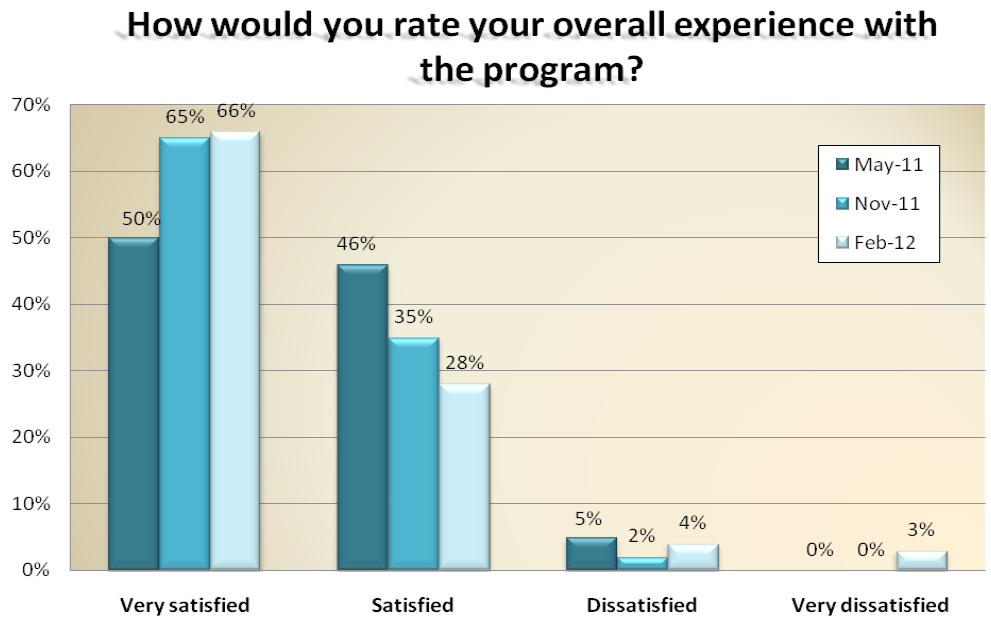
How did you hear about Utah Home Performance?



"I didn't know this program existed when we looked into replacing our furnace. It was a nice incentive to update it and other projects that we needed done, like getting more insulation in our attic."

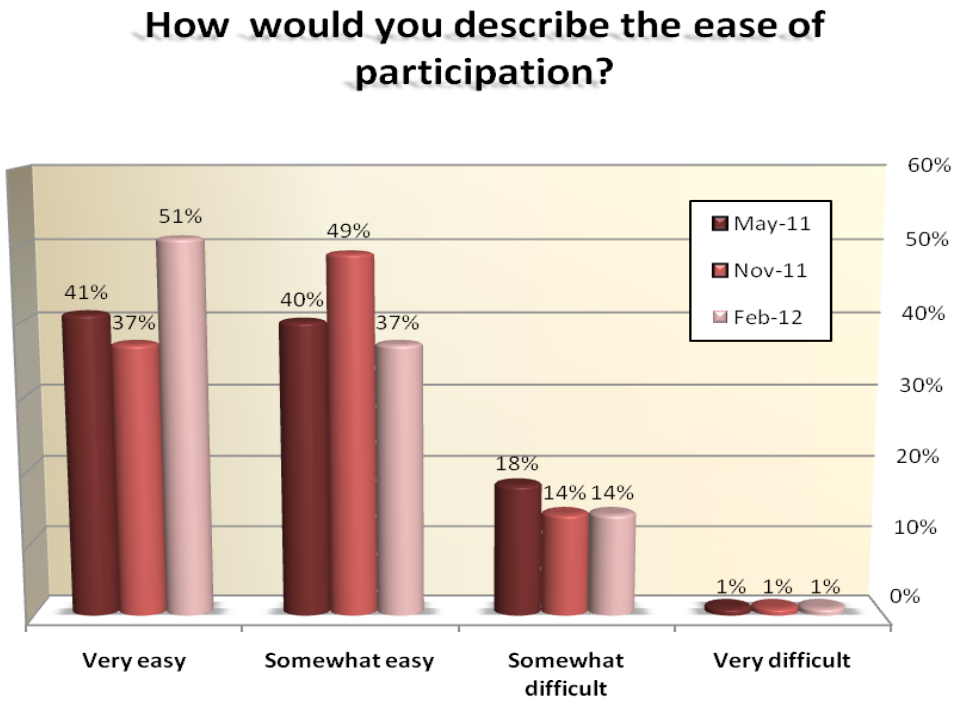
"We didn't know anything about Utah Home Performance until we were gathering quotes for a new furnace and a/c. As we looked into it, we found it to be a great deal and the process was easy."

The number of "very satisfied" participants has grown over the course of the program, however, the first "very dissatisfied" participants show up in the February 2012 survey.



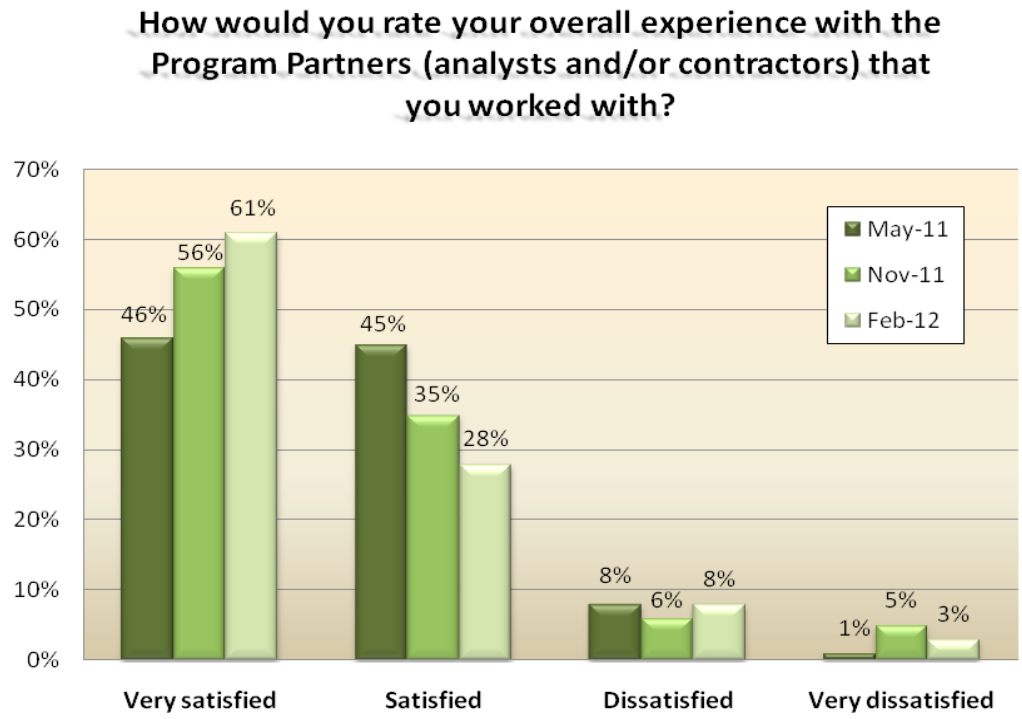
"I was pleasantly surprised how well the Utah Home Performance Program communicated with me through the process. They were very efficient, quicker than I imagined, and pleasant. I'm so glad we applied!"

"The contractors we worked with and the Utah Home Performance representatives were very helpful and made sure we knew what we need to do in order to take full advantage of the benefits of the program."



"Everything went like clockwork! I was very happy that I was able to make the energy improvements to my home, especially since I was not employed. Being able to do that at half the cost was terrific!"

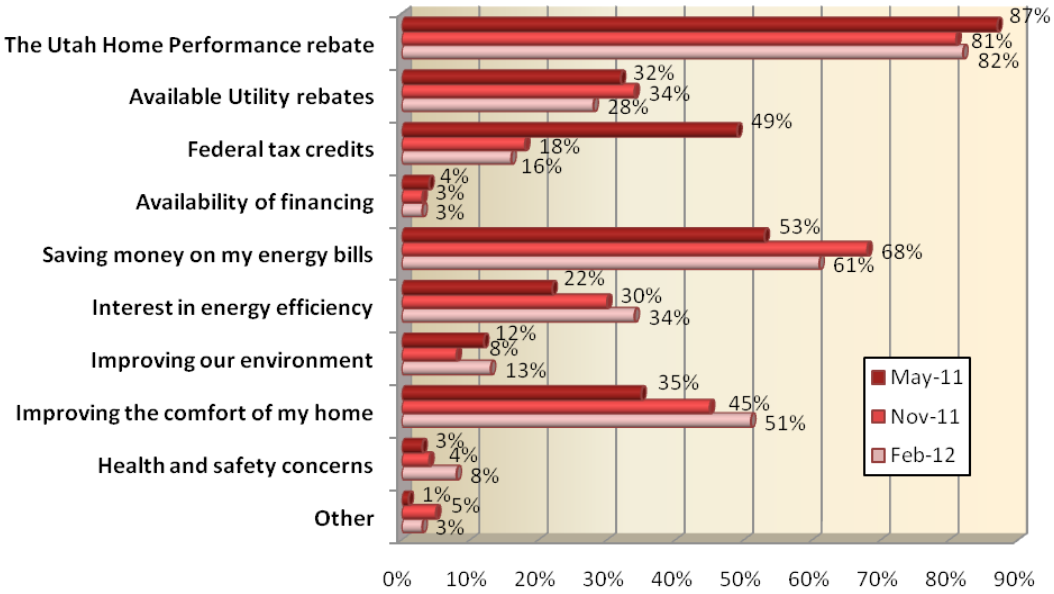
"I was impressed with how quickly and efficiently everyone worked together to assess our home, refer us to contractors, get the work completed in a timely and satisfactory matter (very honest too), perform the final assessment and finally, receiving the rebate in such a quick turn around time!"



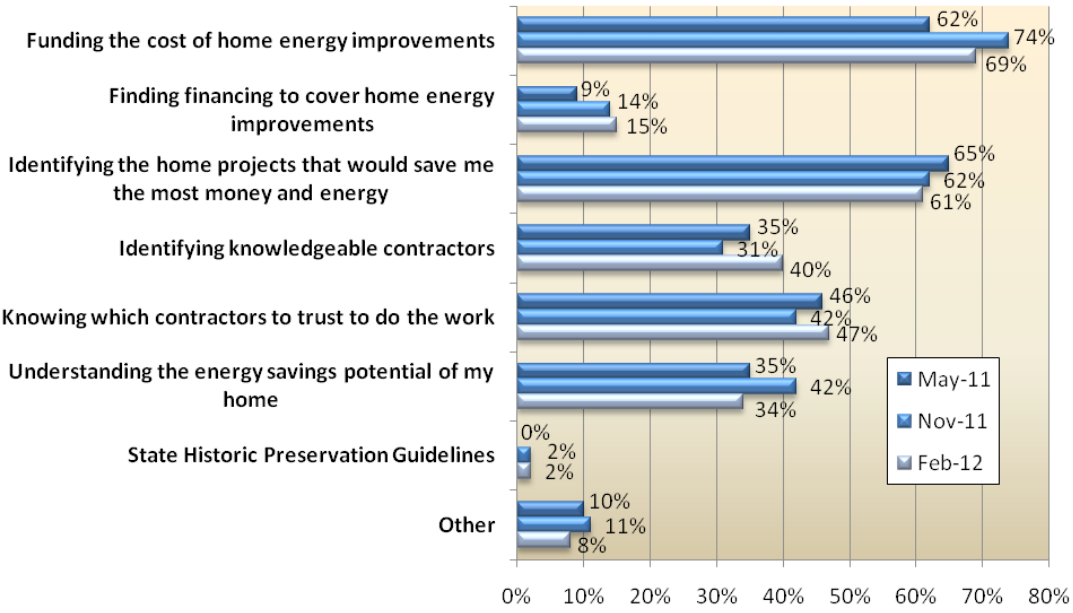
"They were easy to work with, and very helpful in supporting my understanding of the program, including help with the paperwork. They also met their schedule, and gave me the confidence that they were reliable."

"The contractor we worked with was very good at explaining the process, what was expected of me, and what they and the program would do. Everything was completed in a timely, efficient manner. We have had no problems or complaints with our new HVAC system!"

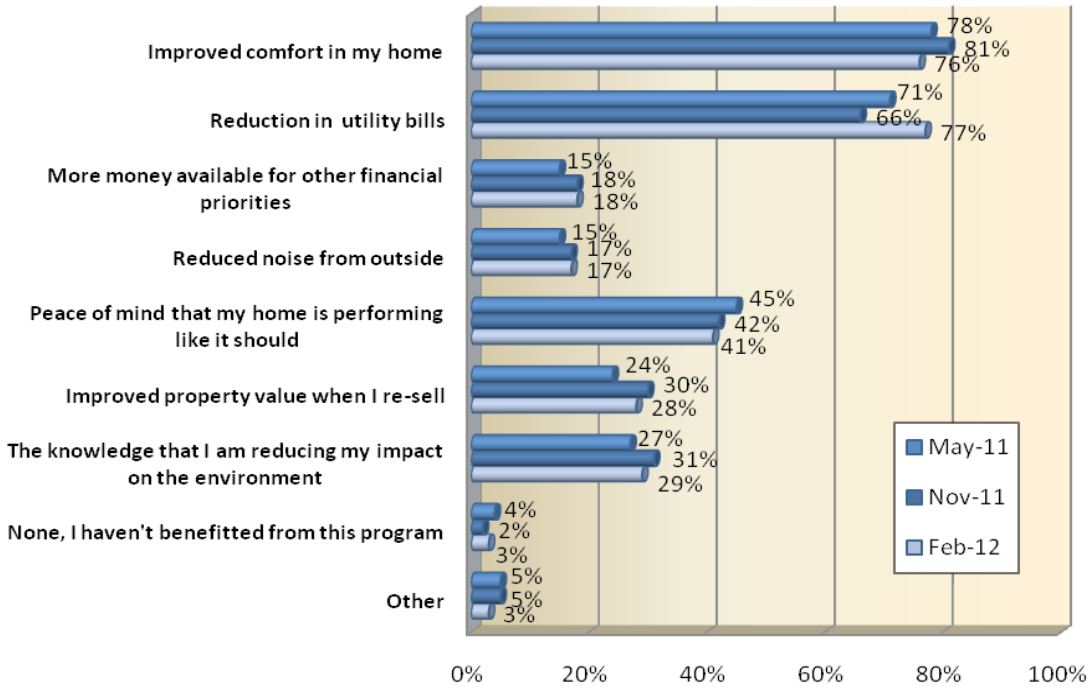
Please choose the top 3 factors influencing your decision to make energy efficiency upgrades to your home



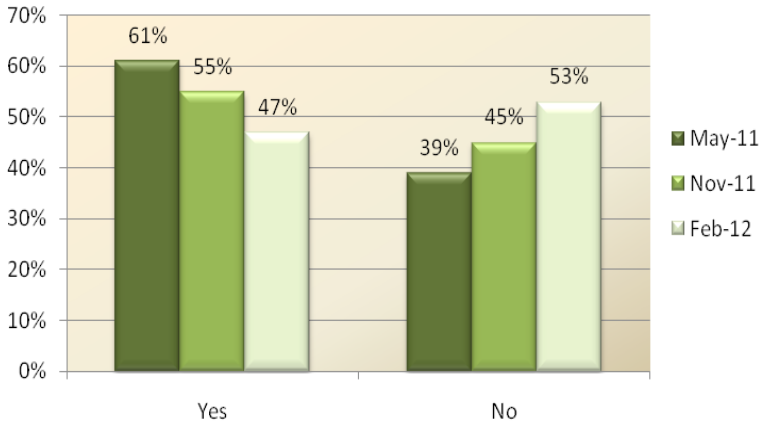
Please choose the top three challenges you overcame in order to make energy efficiency improvements to your home.

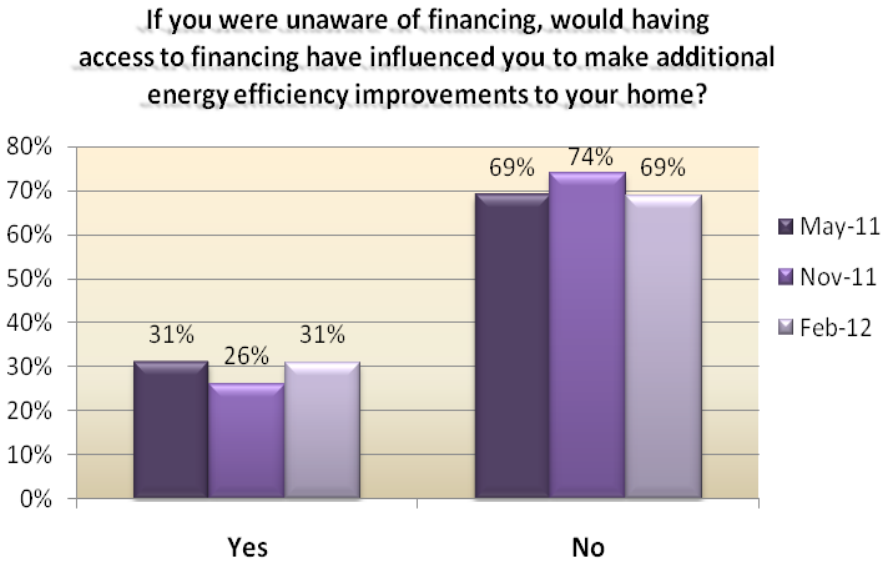


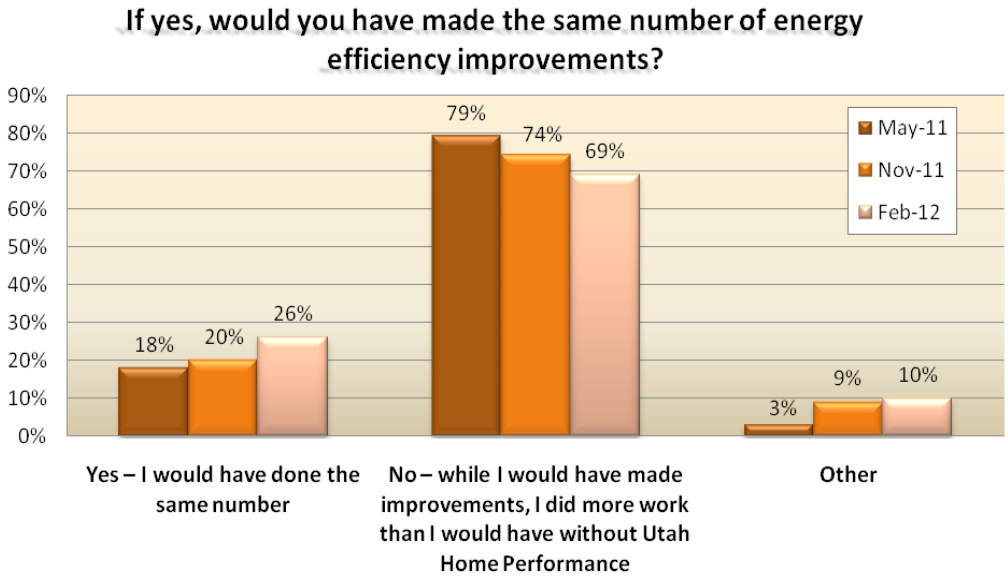
Please choose the top three benefits you experienced by making energy improvements to your home



Did you know there were financing options available?

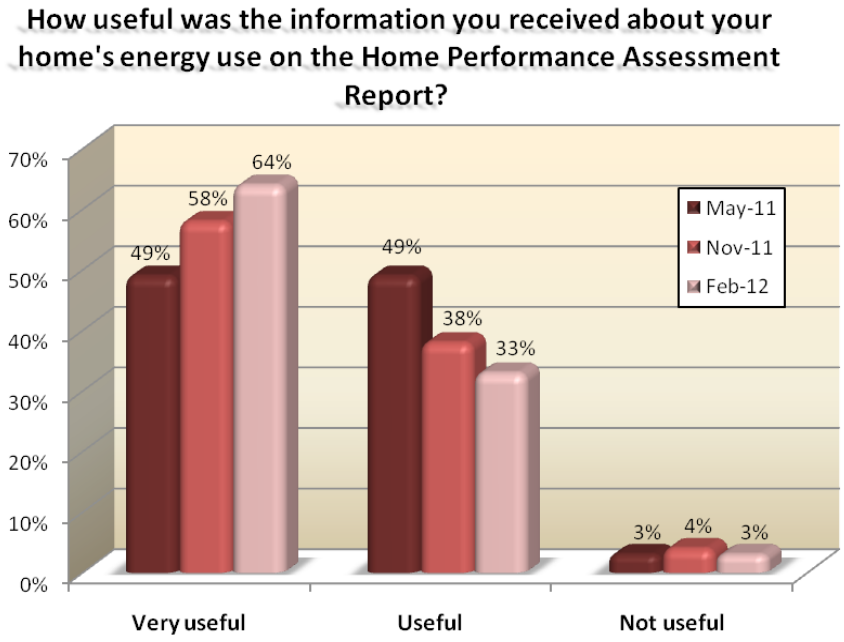






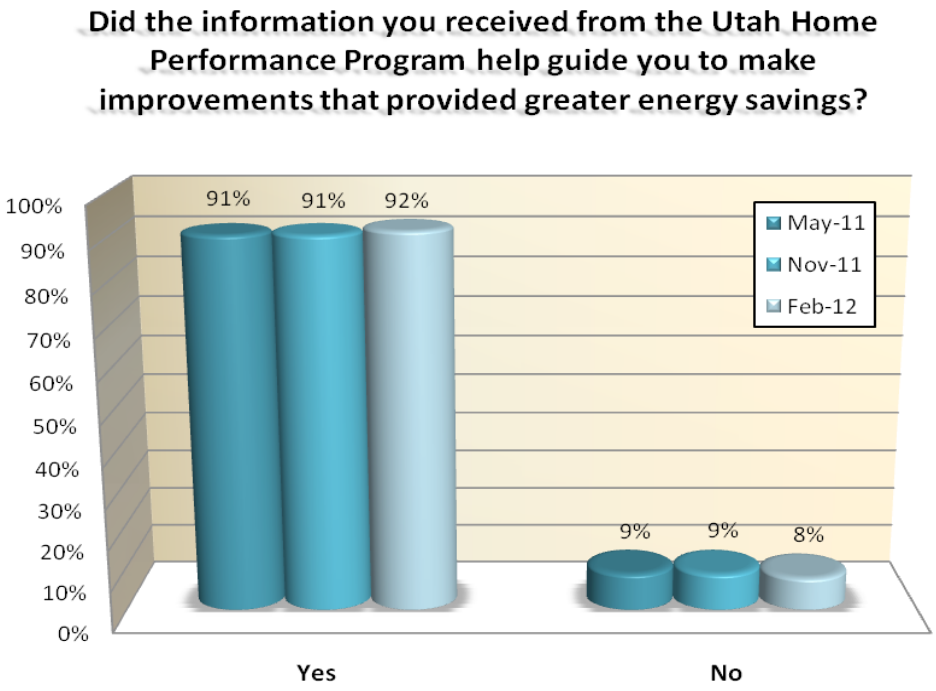
"I had been looking for cost-effective energy savings options, but was able to put it together only when rebates came available. We did more because DwellTek explained financing availability."

This chart shows an increase in usefulness of the HPA, which may be attributed to the improvement in performance and quality of work from the analysts as they gain experience through the program.



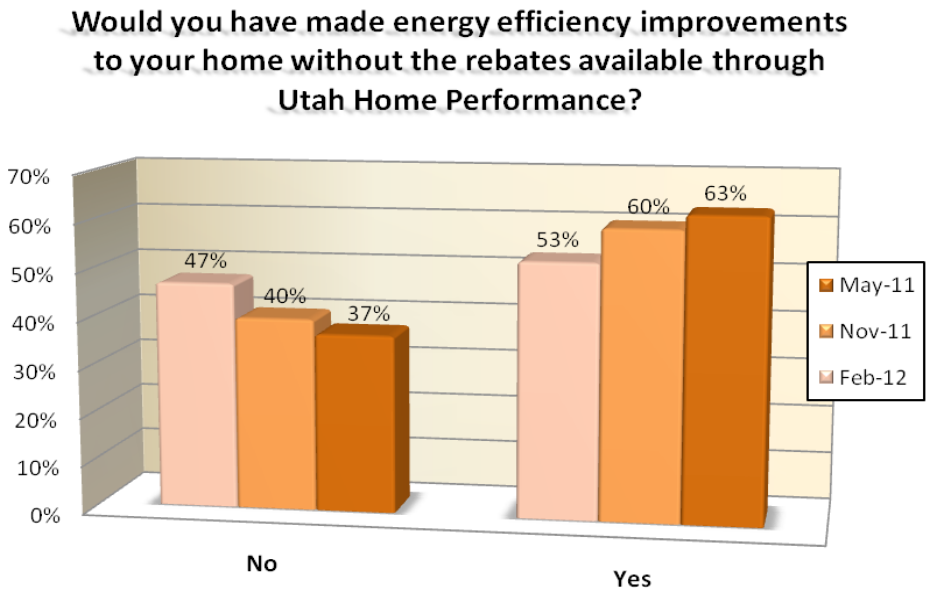
"It was very helpful. I would not have had the work done otherwise because I didn't know how badly my home was insulated. We are saving over $150 per month because of the insulation and new windows."

"I had no idea how much air was being lost through a missing bathroom fan."



"We were working with a 110 yr old home, and they understood and worked with us to maximize a refund and home energy efficiency rating."

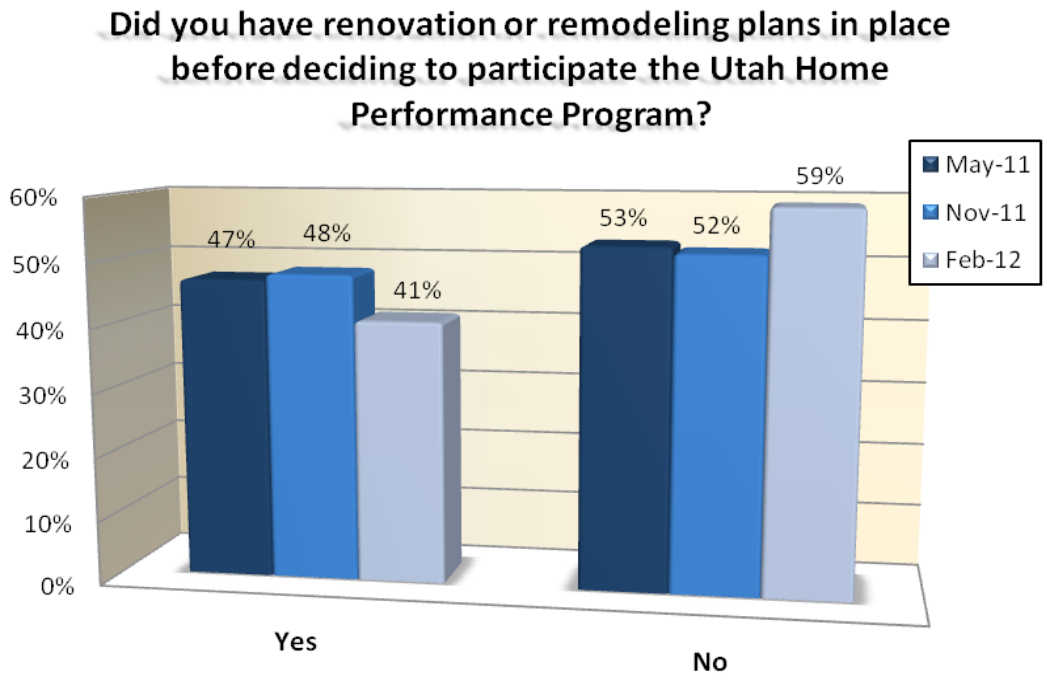
"The energy audit requirement was extremely beneficial to us. We had made many improvements but the tools used during the audit quantified where we could make additional improvements. Our energy savings from the program have been very significant as confirmed by our electrical and gas bills."



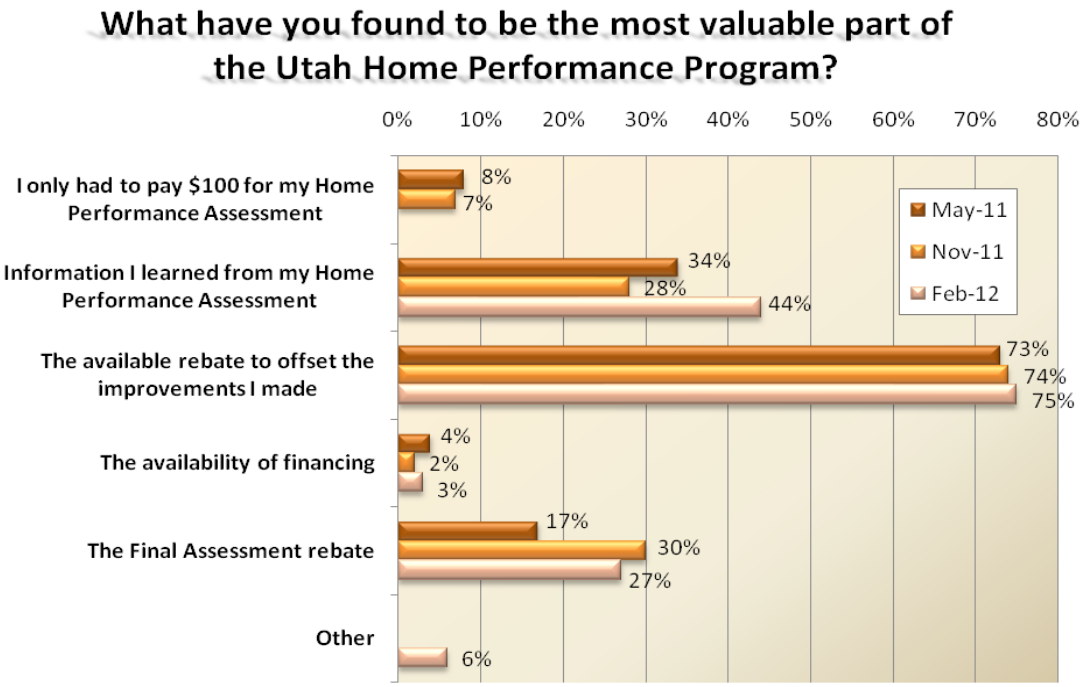
"I was motivated to go ahead and replace my old boiler now, and to opt for the more expensive higher-efficiency boiler since the rebate compensated for the difference in cost."

"When replacing the A/C I purchased a more efficient unit. I would not have upgraded the furnace without Utah Home Performance rebates."

"I would have made some improvements since we were already in the process of remodeling our home, but I would not have done nearly as much as I was able to do if it weren't for the Utah Home Performance rebates. It helped my money to stretch farther."

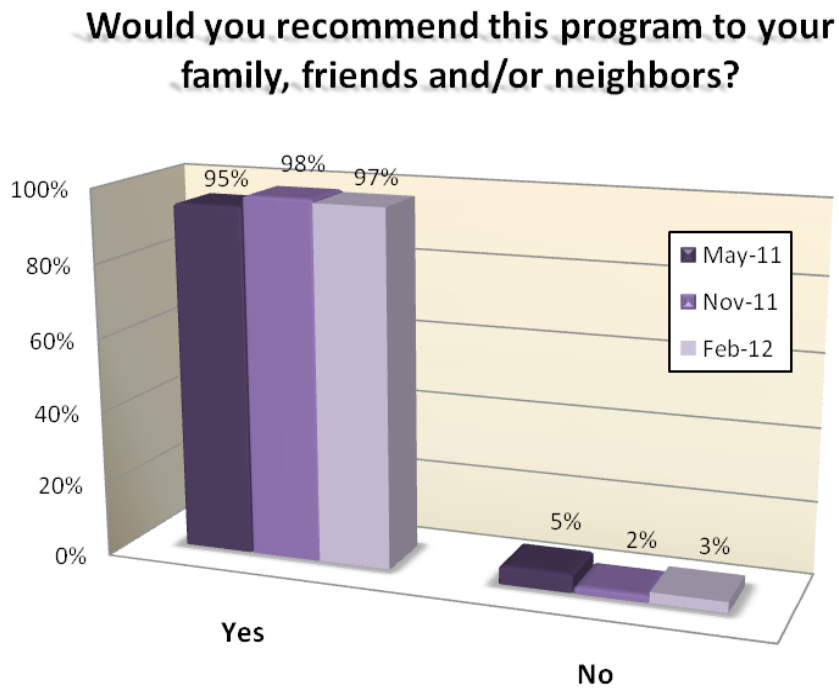


"We always had intentions, but they were long term and not as energy efficient. With UHP help, we were able to get these things done quicker and with better materials. Thank you."



"The people I worked with were very friendly and knowledgeable about the program. How can you not be happy with receiving cost support for more energy efficient heating and cooling equipment, as well as enjoying working with the Home Performance Staff?"

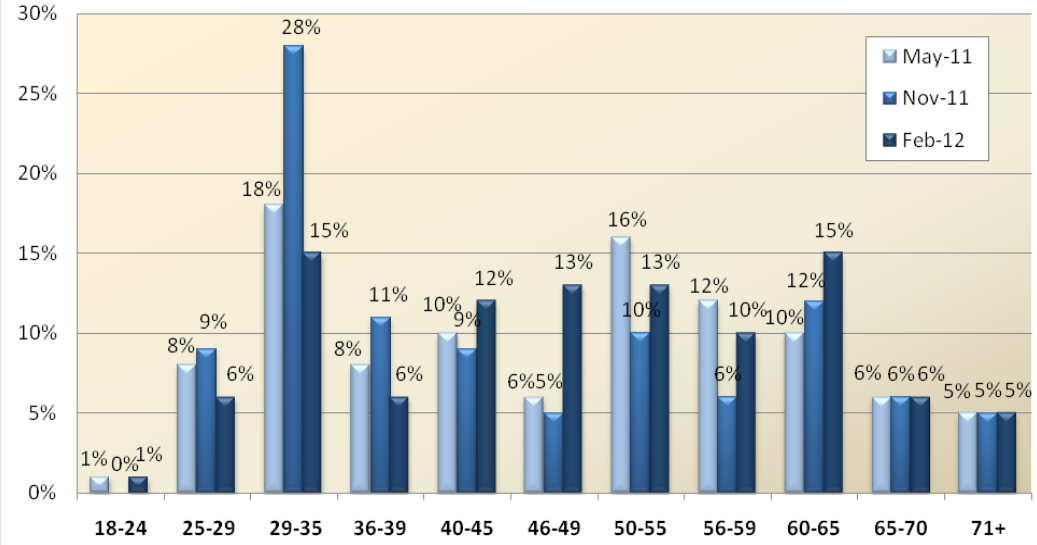
"It was amazing to see how leaky my house was, and then how much more comfortable we are since. The furnace runs less, and the house maintains temperature longer."



"The program really did provide all the promises made. We hope this program can continue for many more years with other homeowners."

"I already have recommended it to several friends and family members. The process was low maintenance on my part, and such a great incentive!"

Participant Age



Participant Salary Range